Advant® OCS

AdvaSoft 2.0 for Windows NT

Operator’s Guide

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Chapter 1 Introduction

The AdvaSoft 2.0 for Windows NT is an environment for different user categories such as operators, engineers, and maintenance technicians. The software can be customized and optimized for each of these user groups by for example selecting only the information that is valid for each user group, by configuring the layout of the user interface.

1.1 About this Book

This book is intended as a guide for Operators using AdvaSoft 2.0 for Windows NT to monitor, control and operate their plants.

The Operators can navigate faster and more natural than with a traditional Operator Workplace. Monitoring, controlling, investigating exceptions, studying trends, it's all there with a minimum of effort.

This book is not the only source of instruction for AdvaSoft 2.0 for Windows NT. The information is mostly copied from the different subsystems user documentation but does not include description of installation and configuration, functional descriptions and maintenance. For more detailed descriptions, see the different subsystems user documentation.

ABB also offers training courses for those who use AdvaSoft 2.0 for Windows NT.

Use of Warning, Caution, Information, and Tip

This publication includes **Warning**, **Caution**, and **Information** where appropriate to point out safety related or other important information. It also includes **Tip** to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:

⚠ Warning indicates the presence of a hazard which could result in *personal injury.*

Caution indicates the presence of a hazard which could result in *equipment or property damage*.

Information alerts the reader to pertinent facts and conditions.

Tip indicates advice on, for example, how to design your project or how to use a certain function.

Although **Warning** hazards are related to personal injury, and **Caution** hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, comply fully with all **Warning** and **Caution** notices.

1.2 Product Overview

The AdvaSoft 2.0 for Windows NT is an environment for different user categories such as operators, engineers, and maintenance technicians. The software can be customized and optimized for each of these user groups by for example selecting only the information that is valid for each user group, by configuring the layout of the user interface.

The operator functionality includes top of the art process graphics, alarm and event handling, history, trend, reports and system status. Together with the information availability and the efficient navigation the operator can concentrate on increasing the productivity instead of looking for information.

The Operators can navigate faster and more natural than with a traditional Operator Workplace. Monitoring, controlling, investigating exceptions, studying trends, it’s all there with a minimum of effort.

1.2.1 Product Scope

The AdvaSoft 2.0 for Windows NT is the operator tool to supervise and control the process. It gives you the following benefits and features:

- through the unique Workplace concept, you have full control of the presentations and dialogs.
- an optimized Operator Workplace that you can customize for any other user to get the best possible environment and help
- you can customize the alarm presentations according to your standards and needs
- your navigation between graphics, trace presentations with Historical data, Alarms and any other aspect of the process, is fast and effective
- you can study the status of the local Advant node as well as the network status for the Controllers on the Advant Fieldbus 100 network in the system diagnostic displays

All this with the performance to meet your highest demands.

The AdvaSoft 2.0 for Windows NT consists of:

- Workplace management and navigation **- Advant Workplace**
- The user interface to the world of ABB objects **- Advant Plant Explorer**
- Graphical presentation and operation **- Advant Graphics**
- Alarm and event handling **- Advant Alarms**
- Trend presentation **- Advant Trends**
- System status **- Advant System Status**
- Excel add-ins for reporting **- Advant Report add-ins**

For a detail description of the Advant Products, see Section 1.4, Related Documentation.

1.2.2 What You Can Do with Advant Operator Workplace

One of the key benefits is the Information Availability. The idea is to keep all relevant information together for the user. At all time the user shall have access to all the information he needs. Today, users usually spend a lot of their time searching for data and figuring out where to find data. By using AdvaSoft 2.0 for Windows NT the user can concentrate on what to do with the information. To support the information availability you have the efficient navigation capabilities. By using short cuts, back & forward buttons, the history list and the right mouse click on an object, you can always reach the information you need.

1.3 Prerequisites and Requirements

For information on the prerequisites and requirements for the Advant System, refer to the *Advant Workplace Products Product Guide*.

1.4 Related Documentation

The table below lists all documentation related to Advant Operator Workplace.

Category	**Title**	**Description**
System Administration	Advant Workplace Products Administrator's Guide	This book describes how you install the Advant Workplace Products software, including software options, and how you then perform maintenance.
Software	Advant Workplace User's Guide	This book describes everything about the user interface, for example how you present information, navigate and control objects.
	Advant Plant Explorer User's Guide	This book describes how you build hierarchically structured models of a plant or project as well as how you navigate in the structures.
	Advant Graphics User's Guide	This book describes how you build and use graphics in Advant Workplace Products. It includes information about the basic building blocks provided by ABB.
	Advant Alarms User's Guide	This book explains how to use the Advant Alarm and Event functions. It covers alarm and event configuration and presentation.
	Advant Trends User's Guide	This book describes how to use the trend graphs to view historical data during runtime.
	Advant Reports Add-Ins User's Guide	This book describes how to include current and historical information in process reports

Category	Title	Description
Options	Advant Connectivity Library for Advant Controller 100 Series Reference Manual	This book is a set of pre-defined graphic elements for Advant Controller 100 Series.
	Advant Graphic Library for Process Industry Reference Manual	This book is a set of pre-defined graphics used by the process industry.
	Advant OPC Server for Advant Fieldbus 100 User's Guide	This guide describes the Advant OPC Server for Advant Fieldbus 100 (Advant OPC Server for AF100), which is a standard OPC interface for Advant Fieldbus 100.
	Advant History User's Guide	This book describes the Advant History software.
Other	Advant Workplace Products for Operators Product Guide	This book is a presentation of the software and software options in Advant Workplace Products for Operators. It also includes hardware and software requirements and specifications.
	Advant Workplace Engineering Methods Reference Manual	This book is intended as a guide for plant engineering using Advant Workplace Products software together with Advant Controller 100 Series.

1.5 Conventions

The following conventions are used throughout this book for the presentation of material:

- The words in proper names of screen elements (for example, the title in the title bar of a window, the label for a field of a dialog box) are initially capitalized.
- Capital letters are used for the name of a keyboard key if it is labeled on the keyboard. For example, press the ENTER key.
- Lowercase letters are used for the name of a keyboard key that is not labeled on the keyboard. For example, the **space bar**, **comma key**, and so on.
- A plus sign is used to indicate that you must simultaneously press several keys. For example, CTRL+C indicates that you must hold down the CTRL key while pressing the C key.
- The phrase "press and release" is used to indicate that you sequentially press several keys. For example, to close a window, press and release ALT, and then F4. This indicates that you press and release the ALT key, and then you press and release the F4 function key.
- The names of push and toggle buttons are boldfaced. For example, click **OK**.
- The names of menus and menu items are boldfaced. For example, the **File** menu.
  - The following convention is used for menu operations: MenuName > MenuItem > CascadedMenuItem. For example: choose **File** > **New** > **Type**.
  - The **Start** menu name always refers to the **Start** menu on the Windows NT Task Bar.
- System prompts/messages are shown in the Courier font, and user responses/input are in the boldfaced Courier font. For example, if you enter a value out of range, the following message is displayed:

  ```
  Entered value is not valid. The value must be 0-30.
  ```

  In a tutorial, you may be told to enter the string TIC132 in a field. The string is shown as follows in the procedure:

  `TIC132`

1.6 Terminology

At the end of this manual (in Appendix A, Glossary) there is a complete glossary for the Advant Operator Workplace terminology.

Chapter 2 How to Use the AdvaSoft 2.0 for Windows NT

The Advant Workplace Window is the main user interface of the Advant Workplace. There are currently one default Advant Workplace set-ups. This chapter describes how to improve the Advant Workplace settings to suit your specific needs.

2.1 Start-up

The Advant System Supervisor is used for controlling the start-up and shut-down procedure of the AdvaSoft 2.0 for Windows NT. When the System Supervisor is running, a small icon, see Figure 2-1, is visible in the system status area of the Windows NT Task Bar.

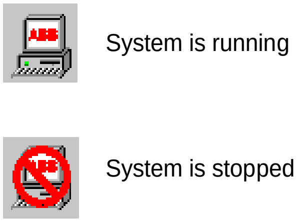


Figure 2-1. System Supervisor Icons

When you click on the System Supervisor icon in the Task Bar, a dialog appears which will make it possible for you to start and/or stop the system. The presented dialog box has system supervision information and status, and buttons for starting and stopping the system

Do the following steps to start the AdvaSoft 2.0 for Windows NT:

1. Click on the **Start System** button.
2. After a few seconds the System Supervisor indicates that the Advant system is running.
3. The system needs about 2-3 minutes to initialize, so please wait these minutes before you start to use the system.

2.2 Shut-down

Do the following steps to shut-down the AdvaSoft 2.0 for Windows NT:

1. Click on the **Stop System** button.
2. It takes a few minutes before the system has shut-down.

2.3 Understanding the AdvaSoft 2.0 for Windows NT

The Advant Workplace Window provides a number of navigation methods. The usage of those is thoroughly described and the configuration of them, where relevant, is described. The following navigation features exists:

- Display shortcuts provide you with one click access to pre-configured displays.
  - Permanent short-cuts shown in the Application Bar
  - Object dependent short-cuts shown in the Display Bar
- Browser shortcuts provide you with structure dependent shortcuts to displays.
- History lists, enabling a selection among your latest display selections.
- Back and Forward buttons, for navigation back and forward in the History list.
- The context menu, you reach it from your right mouse button, provides you with immediate access to the aspects of the selected object. The setting of the User profile aspect filter affects the content of the context menu.

Browser Shortcuts. You can enable or disable the Browser link as part of the Advant Workplace customizing. The Browser Shortcuts are 3 arrows, visible in the display bar, that allow you to navigate between ABB Objects according to how they are placed in the structure.

When you start an Advant Workplace, a user interface like the rough outline in Figure 2-2 opens on your screen.

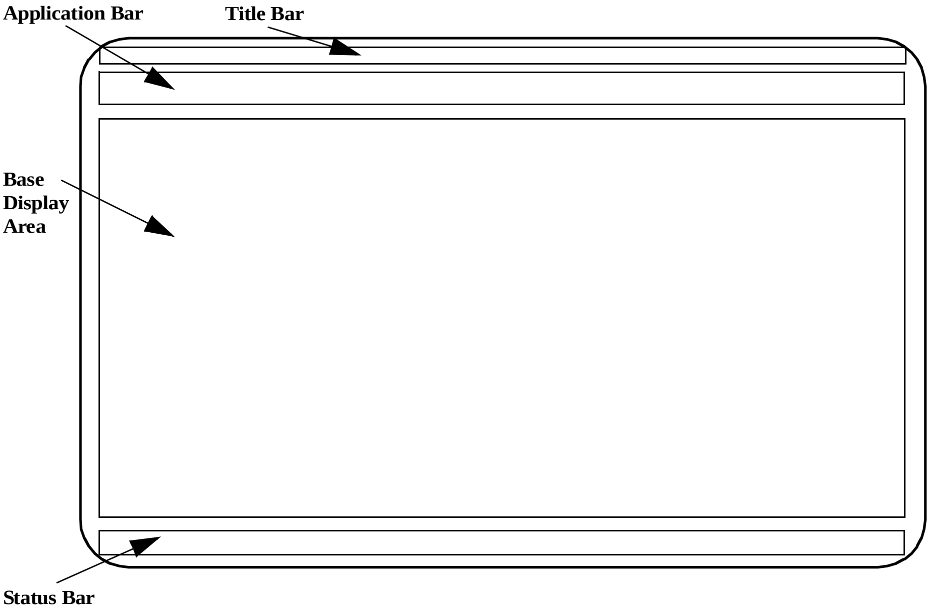


Figure 2-2. A Rough Outline of the Advant Workplace Window

An example of an Advant Workplace is shown in Figure 2-3

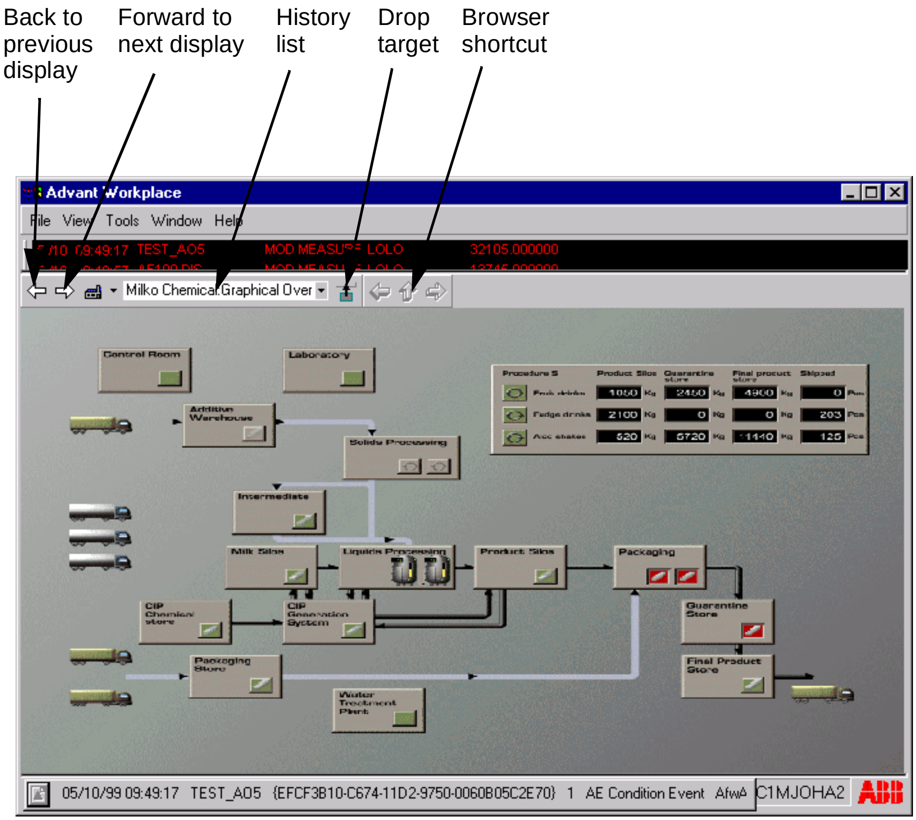
The Base Display Area is the main area where information can be presented. (An other type of window is the Overlapping Display area.) It can be split into a number of Displays in a Panel, see Figure 2-2, or it can consist of one single Display.

The information is displayed as aspect views. Typical such aspect views are:

- Process Displays
- Trend Displays
- Alarm Lists
- Drawings

You can use the following ways to change display (see also Figure 2-3):

- Display short cuts provide you with one click access to pre-configured displays.
  - On a workplace level - in the Application Bar as a Shortcut.
  - On an object level - in the Display Bar of an image as a Display Shortcut.
- History lists, enabling a selection among your latest display selections.
- Back and Forward buttons, for navigation back and forward in the History list.
- The Drop Target, just drag the aspect you want to present (typically from Advant Plant Explorer) into the drop target and it will be displayed.
- The context menu, you reach it from your right mouse button, provides you with immediate access to the aspects of the selected object.
- Browser Shortcuts. You can enable or disable the Browser link as part of the Advant Workplace customizing. The Browser Shortcuts are 3 arrows in the Display Bar, that allow you to navigate between ABB Objects according to how they are placed in the structure.



05/10/99 09:49:17 TEST_A05 {EFCF3B10-C674-11D2-9750-0060B05C2E70} 1 AE Condition Event AfwA

Figure 2-3. Ways to Change Display

In the following sections are described how you can work with the Advant Workplace Window.

To visualize the various display change features, lets look at the Display Bar in Figure 2-4.

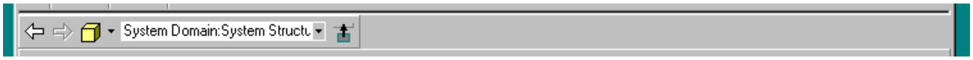


Figure 2-4. Example of a Display Bar

You have many different ways to change the Display. Begin by placing the pointer in the main workplace window or an overlapping display, where you want to change Display.

Click once with the left mouse button. The Title Bar will be high-lighted (marked). Then change the Display in this selected Display Area by using:

Backward (in History List) Arrow

You go back to the previous Display in the History list by clicking on the "Backward in History List" arrow (see Figure 2-4). If the arrow is dimmed, it is not possible to go backwards.

Forward (in History List) Arrow

You go forward to the next display in the History list by clicking on the "Forward in History List) Arrow (see Figure 2-4). If the arrow is dimmed, it is not possible to go forwards.

History List

Click on the History button to get a list of the most recently viewed Displays (the latest used Display on top). The list contains both the object and the aspect names. If a Display has been viewed twice, there is only one entry in the list, see Figure 2-5.

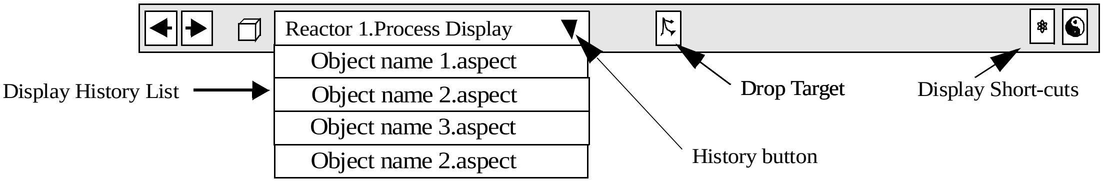


Figure 2-5. Example of the Display History List

Click on the display (object aspect) that you want to present.

Drop Target

You can view a Display by dragging an aspect from the Plant Explorer or Fixed Display to the Drop Target button on the Display Bar. When you drop the aspect in the Drop Target, the main view of the aspect is shown in the Display Area. The dropped Display will be added to the History list.

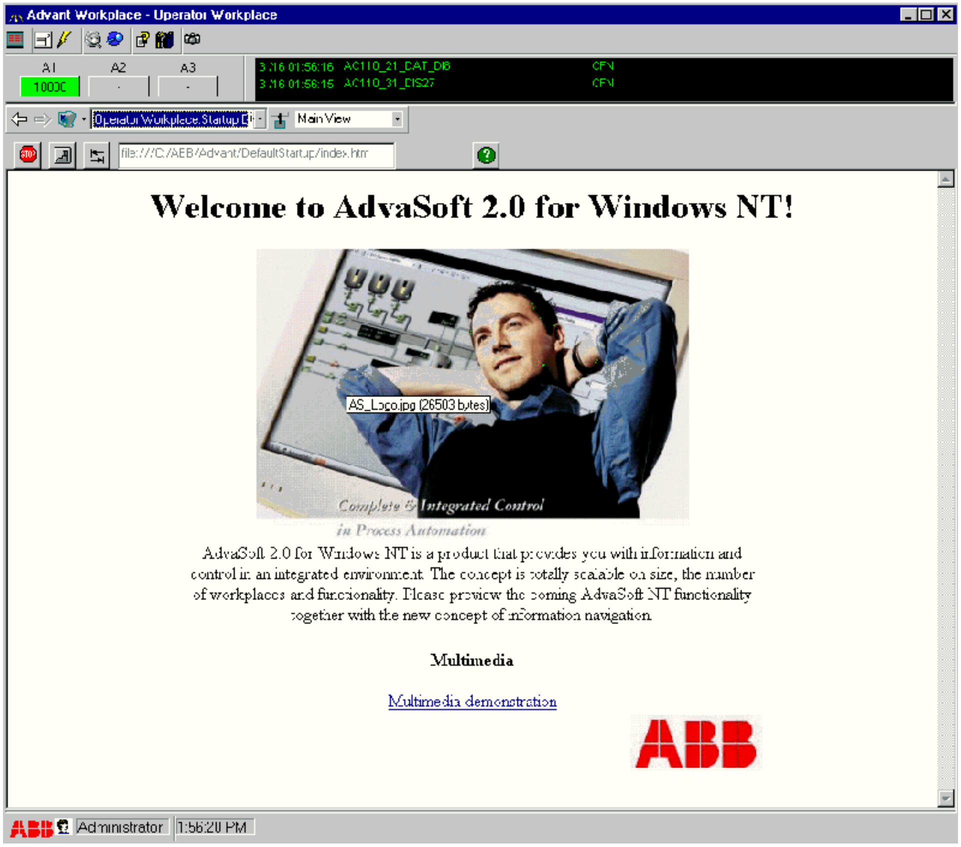
View Selector

If the aspect has more then one view, the View Selector becomes visible presenting the visible view. Click on it and a drop down list will show other available views on the aspect for your selection.

Display Shortcuts

You use Display Shortcuts for one-click access to a specific display. The display is, as all displays are, an aspect of an object. The Icon representing the Display Shortcut is the Object Icon.

With the help of Display Shortcuts you can access sequences of displays as well as display hierarchies. See chapter 3 for instructions how to configure Display Shortcuts.


Advant Workplace - Operator Workplace
A1
A2
A3
1000C
Operator Workplace.Startup Di
Main View
AS_Logo.jpg (26503 bytes)
Complete & Integrated Control
in Process Automation
ABB
Administrator
1:56:20 PM

3.16 01:56:16 AC110_21_DAT_DI8 CFN
3.16 01:56:15 AC110_31_DIS27 CFN

file:///C:/AEB/Advant/DefaultStartup/index.htm

Welcome to AdvaSoft 2.0 for Windows NT!

AdvaSoft 2.0 for Windows NT is a product that provides you with information and control in an integrated environment. The concept is totally scalable on size, the number of workplaces and functionality. Please preview the coming AdvaSoft NT functionality together with the new concept of information navigation.

Multimedia

Multimedia demonstration

Figure 2-6. Advant Workplace Window

When the cursor is placed on top of a Display Shortcut a tool-tip (represented as a small yellow box) is activated. The tool-tip displays the object name and the aspect.

Finally, the Aspect List, available if you click on the small list symbol beside the Display Shortcut Icon, presents a list of the other aspects of the specified ABB

Object. Click on the wanted aspect name and that aspect view is displayed as the next display.

Most objects in the Advant Workplace Windows have context menus. The content of the context menu of an object differs depending on the aspects of the object and the filter applied to your user profile.

You handle the Advant Workplace context menus in the same way as you do with an ordinary Windows NT window context menu.

When you right click on an ABB Object or an Aspect a Context Menu is shown. The menu contains a number of actions that can be performed which are related to the object.

You may add Display Shortcuts to your Application Bar, and you use these for one-click access to a specific display. The display is, as all displays are, an aspect of an object. The Icon representing the Display Shortcut is the ABB Object Icon.

The display short cuts in the application bar are specific for the Advant Workplace. As long as you are logged in to that Advant Workplace they will be the same. You will typically access some of the displays of your plant/section more than others, and it is convenient to have the possibility to access them through display shortcuts placed in the application bar.

Browser Shortcut

The Browser Shortcuts appears in the Display Bar before the Display Shortcuts.

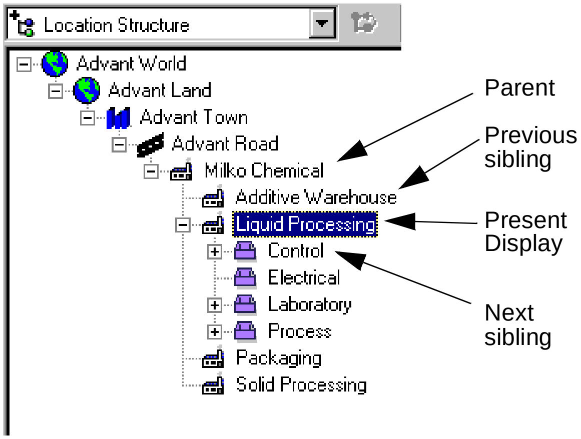


Figure 2-7. Browser Shortcuts

The **left** arrow points at the **previous** sibling, the **up** arrow at the **parent** and the **right** arrow at the **next** sibling. If you, for example (see Figure 2-7), have a display of the Liquid Process opened in a window on the screen, and that display got a Browser Shortcut, a click on the left arrow will open a display of the Additive Warehouse. A click on the right arrow will open a display of the Control, and a click on the up arrow will open a display of the Milko Chemical.

Through the pull-down menu at the right hand side of the browser link is all aspects of the object available.

The Browser Link itself uses the following scheme to determine which aspect it should display when clicked on:

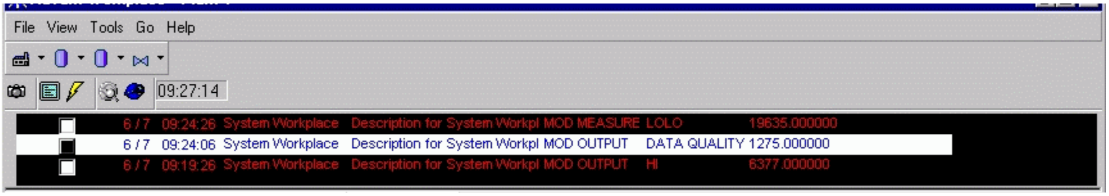
- First choice is any display of the same type as the currently viewed display. That is, if the user is viewing a graphic display the Browser Shortcuts will default to a graphic display if available for that object.
- Second choice is the objects default aspect, if configured.
- Third and last choice is the structural aspect.

In the following sections you can see how to operate with the Advant Workplace Window.

The Application Bar is located on the upper part of the Advant Workplace Window. The main use for you, as an Operator, is to give you a fast and easy way to change between information areas - like Displays, Fixed Displays and Panel Displays.

The tools you have in the Application Bar to change Display in a Display area are:

- **Menu Bar**
- **Default Tool Bar**
- **Display Shortcuts** can be included to help you to rapidly go to a certain Display. Display Shortcuts may be placed in the Application Bar as well as in a displays Display Bar.



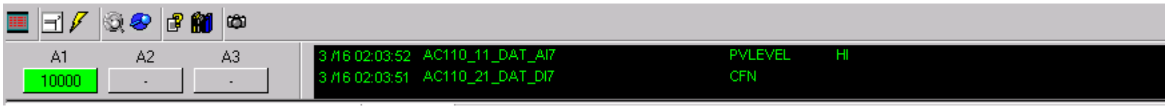
```
6 / 7  09:24:26 System Workplace  Description for System Workpl MOD MEASURE LOLO          19635.000000
6 / 7  09:24:06 System Workplace  Description for System Workpl MOD OUTPUT   DATA QUALITY 1275.000000
6 / 7  09:19:26 System Workplace  Description for System Workpl MOD OUTPUT   HI           6377.000000
```

Figure 2-8. Example of Application Bar

As an extra help a tool-tip is displayed when you place the cursor on top of a button. The tool-tip (represented as a small yellow box) is displayed some seconds after you placed the cursor on the button, and shows for example the object name, the aspect and the way to present the display. The yellow tool-tip box closes automatically after about ten seconds.

You use the Display Bar to control and identify the contents of the Display Area.

Figure 2-9 shows the functionality supported by the Display Bar for a Display Area were the Display can be changed.



```
3 /16 02:03:52  AC110_11_DAT_AI7          PVLEVEL     HI
3 /16 02:03:51  AC110_21_DAT_DI7          CFN
```

Figure 2-9. Example of a Display Bar

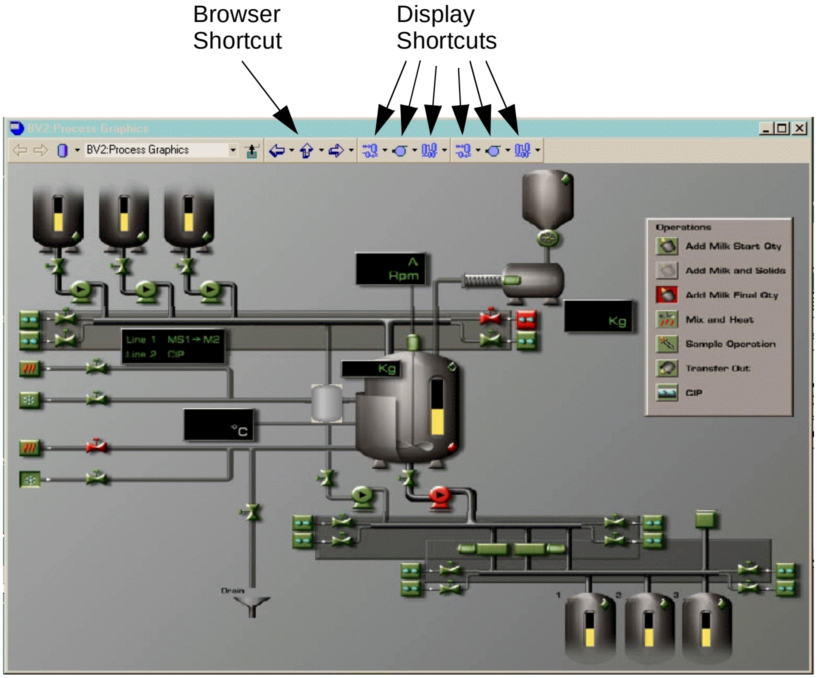


Figure 2-10. Display with Display Bar

You can use the View menu selection Full-screen to occupy the full screen with your Advant Workplace Window. This hides some of the Windows NT bars. The menu selection View/Full Screen can be used to toggle back and forth to full-screen mode or not.

Chapter 3 How to Use Plant Explorer

Structures are the graphical representations of the connections that exist between ABB Objects. Since there is usually a number of relations between Objects, they are parts of several structures. The structures themselves look a lot like the structure trees that you work with in Windows NT Explorer. In Windows NT Explorer there are folders that contain files; in Advant Plant Explorer there are ABB Objects holding Objects. The difference between the structures of Advant Plant Explorer and Windows NT Explorer is that in Advant Plant Explorer there are a number of structures representing the same plant, so that each Object can be placed in different structures. In Advant Plant Explorer, there is a list of predefined structures that can be applied to a project model.

3.1 Accessing the Plant Structures

The Temp Root and Structure selector is a drop-down list from which you can select the structure to browse, and for selecting a temporary root.

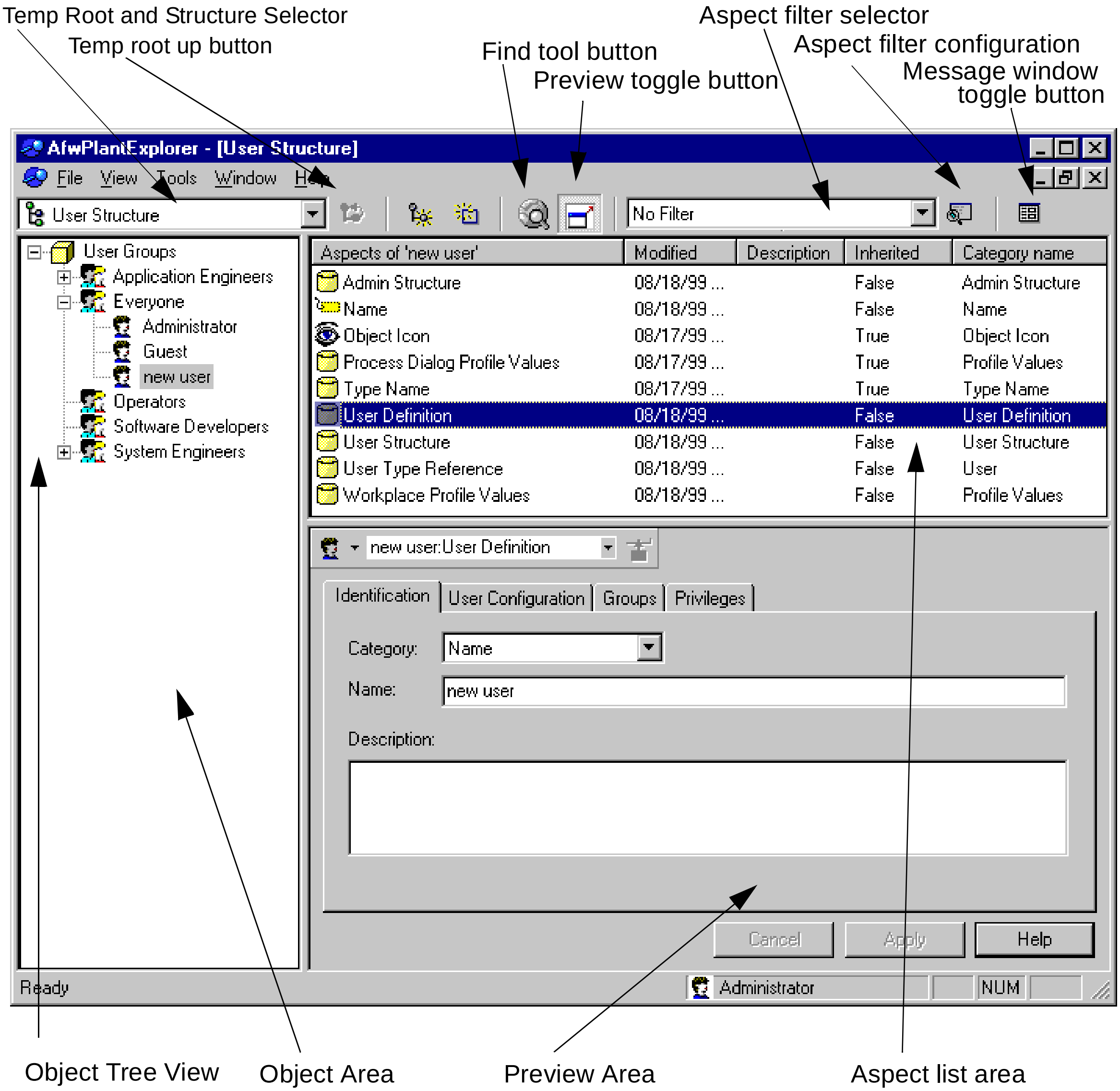
3.2 Understanding the Plant Structures

You can use Advant Plant Explorer to browse the structures of a plant or project, and to find particular objects contained in the structures by means of the **Find** tool.

For more information about the function, location and construction of plant structures, see *Advant Workplace Engineering Methods Reference Manual* and *Advant Plant Explorer User's Guide*.

3.3 Using the Plant Structures

You use the Plant Explorer to view the structures in your plant or project model. Select the structure you want to browse from the Temporary Root and Structure Selector on the upper toolbar.



Aspects of 'new user'	Modified	Description	Inherited	Category name
Admin Structure	08/18/99 ...		False	Admin Structure
Name	08/18/99 ...		False	Name
Object Icon	08/17/99 ...		True	Object Icon
Process Dialog Profile Values	08/17/99 ...		True	Profile Values
Type Name	08/17/99 ...		True	Type Name
User Definition	08/18/99 ...		False	User Definition
User Structure	08/18/99 ...		False	User Structure
User Type Reference	08/18/99 ...		False	User
Workplace Profile Values	08/18/99 ...		False	Profile Values

Category: Name

Name: new user

Description:

Figure 3-1. Stand-alone Advant Plant Explorer window

You use the Object tree view to browse the structures of your plant, and to search for Objects contained in the structures. The following operations can be carried out from the Object tree view window:

You use the Object tree view to browse the structures of your plant, and to search for Objects contained in the structures. The following operations can be carried out from the Object tree view window:

- Browsing a structure. See Section 3.4, Browsing in Plant Explorer
- Setting a Temporary Root. See Section 3.5, Setting a Temporary Root
- Selecting an ABB Object. See Section 3.4, Browsing in Plant Explorer
- Viewing an aspect. See Section 3.6, Viewing Aspects
- Performing a Find operation. See Section 3.7, Finding ABB Objects

3.4 Browsing in Plant Explorer

To begin browsing a structure, follow these steps:

1. Select a structure from the drop-down list. The structure will be displayed in the Object tree view area.
2. You can now browse the structure by clicking Objects and nodes. For each Object you select (click), a list of associated aspects is displayed.
3. The structure you select is shown in its compressed state. Click the node (that is, the + sign) to expand the structure. The + sign means that an Object contains other Objects, or substructures. The Advant structures resemble the structures found in the Windows NT Explorer, where each folder containing other folders are marked with a + sign.
   To see all sub-structures in a structure, press the ***** button on your keyboard.
4. By clicking your way through the hierarchies you can search for particular ABB Objects and see their connections to other Objects in the structures.

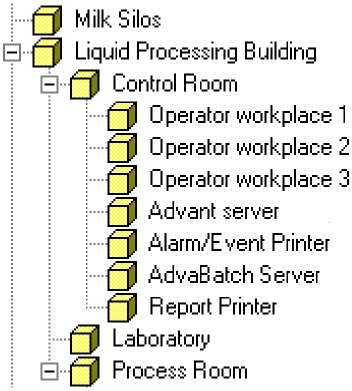


Figure 3-2. Simple and composite Objects in a structure

is displayed with the same + sign as is used in Windows NT Explorer to show that a folder contains other folders. In Advant Plant Explorer, the + sign means that an Object contains other Objects. The + sign means that a substructure exists, and it is shown in its collapsed state. Clicking the node, that is, the box with the + sign, expands the substructure, so that the objects contained in the Object are displayed.

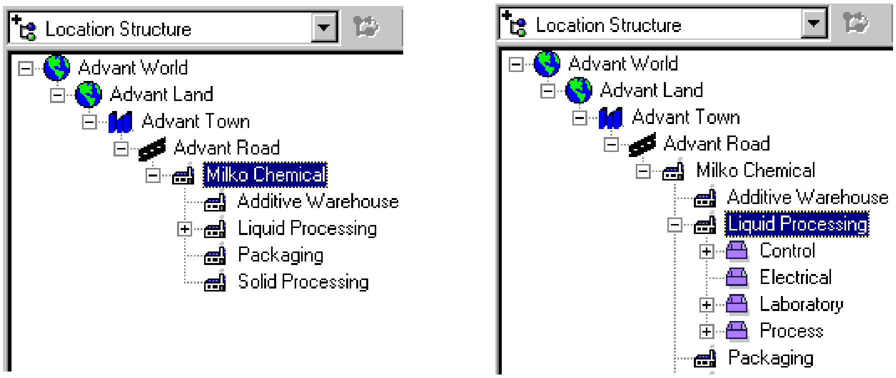


Figure 3-3. An Object that contains sub-structures

In the Plant Explorer, you can see what aspects are associated with a particular Object if you click the Object in the tree view. The aspects will then be shown in the aspect list. If you have selected more than one Object, the aspect list will be empty.

If you have selected an Object, and you select another structure to browse, the Object you have clicked is still selected.

3.5 Setting a Temporary Root

Structures may sometimes be very complex. Because of this, it may be difficult to get an overview of the parts of a structure that you are interested in. To avoid this, you can set a *temporary root*, which means that the Object whose children or substructures you are browsing is set to be the root, that is, become the topmost Object of the hierarchy. This works exactly like when you set a temporary root in the folder hierarchies in Windows NT Explorer.

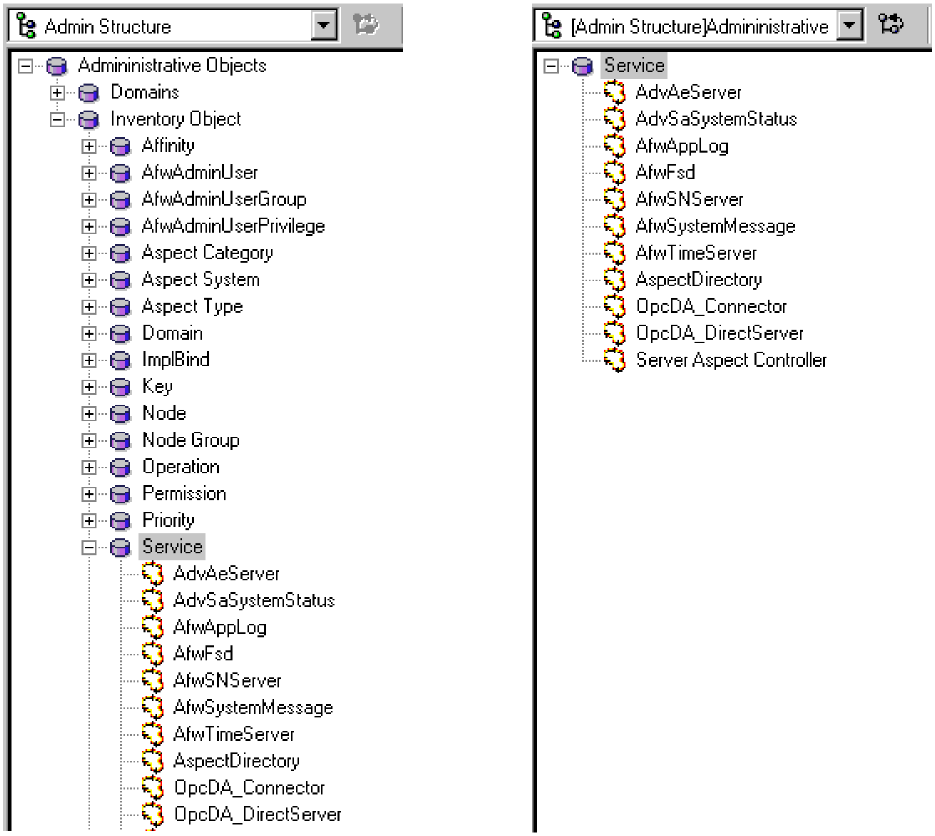


Figure 3-4. To limit your view to a sub structure, you can set a temporary root

A temporary root can be set in three ways:

- You set the Set Temporary Root by using the Structure selector. Select one of the names in the selector path and then select Set Temporary Root from the Object Tree context menu.
- You can reset the temporary root by clicking the Temp Root Up button, which sets the temporary root up one level above the present Root node.

3.6 Viewing Aspects

A view is a display of an aspect of an ABB Object. In the views you can see graphic representations of the Objects in the plant, as well as information on the other aspects.

Aspect views of ABB Objects can be viewed in different ways. They can be presented in the preview part of the Advant Plant Explorer window, in the display area of an Advant Workplace window or as an overlapping display. The views can display both static and dynamic data, so that you can have different windows presenting changes in different parts of the processes in the plant.

Aspects can have several views e.g. one view for configuration (**Config View**) and another for presentation (**Main View**). **Main View** is normally the default view but it can also be **Config View** for those aspects which lacks a **Main View**. Aspects which lacks views can not be displayed in a display area or preview area but it may be possible to perform an action like **Open** on the aspect which will e.g. launch the aspect in a separate window.

- The aspect preview area in Advant Plant Explorer is displayed by clicking the **Preview** button on the tool bar. The default view for the selected aspect is then displayed in the lower right-hand part of the Advant Plant Explorer window.
- Each ABB Object has a context menu that you can use to view the aspects of it. Right-clicking an ABB Object displays the context menu, and the menu includes a list of all aspects of the Object as well as some of the actions possible on the aspects. You can select the aspect that you want to see. The aspect you select will be seen as an overlapping display, if the aspect has a view.

- Double-click on an aspect in the aspect list to perform the default action on the aspect which normally is to open the default view in an overlapping display. There is no hard limit on the number of aspects that you can have displayed simultaneously.
- You can also right click an aspect in the aspect list to bring up the context menu. On the context menu you can select which view of the aspect to display or perform actions on the aspect like **Edit** for a Graphic Display.

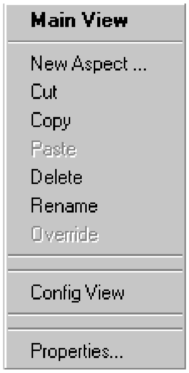


Figure 3-5. Example of views on the context menu

3.6.1 View Selector

For aspects that have more than one view, use this drop-down selector to choose the view to see. The view selector can be found in the display bar on top of the displayed aspect view. Note that the views included in the view selector list as well as the context menu are dependent of you user privileges.

Figure 3-6. View Selector

3.7 Finding ABB Objects

When you want to have fast access to one particular ABB Object or Objects sharing the same name, the **Find Tool** is the most efficient way to search the structures. Use the Find Tool to give the name of an Object or the path to an Object as a search criterion and instantly find the Object that you are looking for. It is also possible to search for Objects of a particular Object type.

You can search for Objects globally or in a certain structure that you have set. In global search, all Objects in the Advant system are considered, so that you can find Objects even if they are not placed in a structure.

In the Find Tool you can also use *wild card* (*) searches, if you are uncertain of the name of an Object you are searching for. Use the "*****" character as a substitution for zero, one or a number of characters, and the "**?**" sign to substitute exactly one character.

To open the Find Tool, click on the Find button, or choose **Find...** from the Tools menu in Advant Workplace window or Advant Plant Explorer.

3.7.1 Finding the Location of an Object

To use the Find mode when searching for Objects, follow these steps:

1. On the Advant Workplace window or Advant Plant Explorer window toolbar, click the **Find** button (see Figure 3-7) to start the Find Tool.
   The Find dialog is displayed.

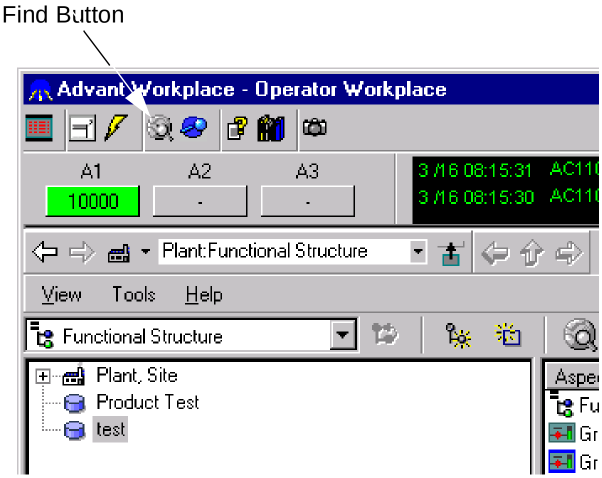
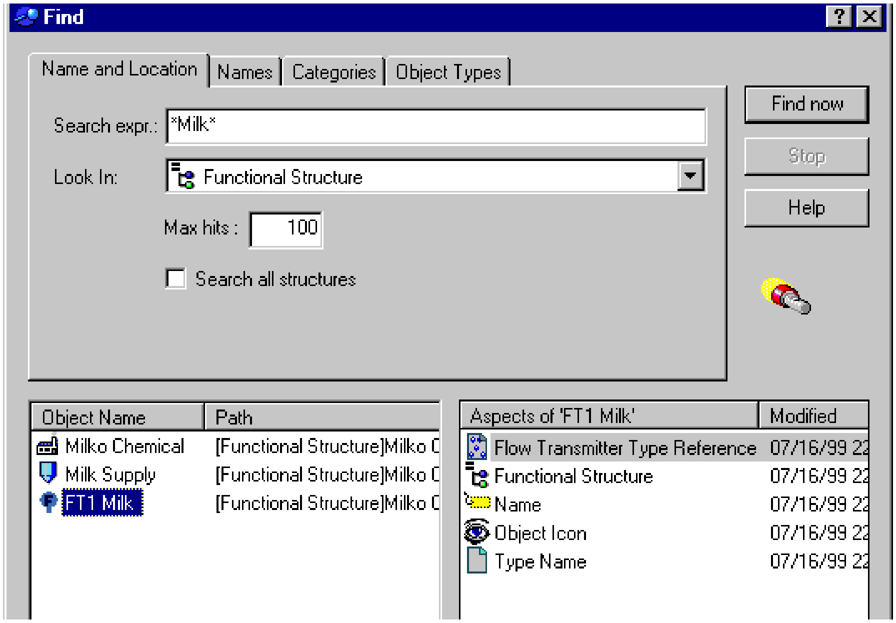


Figure 3-7. Find Button

Name and Location

2. Choose the structure you want to search in the **Look In** field. If you want to search in all structures, set the **Search all Structures** box.

3. Enter an expression in the **Search expression** box (see Figure 3-8), for the name or location you want to search. (See also the **Names** tag.)
   Use wild card searches to locate Objects without having to state the exact name for it. You can confine the search to one particular structure by selecting it from the **Look in** drop-down list in the dialog.
   The length of the list of matching Objects can be limited by setting a **Max hits** number.



Search expr.: *Milk*

Look In: Functional Structure

Max hits : 100

☐ Search all structures

Object Name	Path
Milko Chemical	[Functional Structure]Milko
Milk Supply	[Functional Structure]Milko
FT1 Milk	[Functional Structure]Milko

Aspects of 'FT1 Milk'	Modified
Flow Transmitter Type Reference	07/16/99 2
Functional Structure	07/16/99 2
Name	07/16/99 2
Object Icon	07/16/99 2
Type Name	07/16/99 2

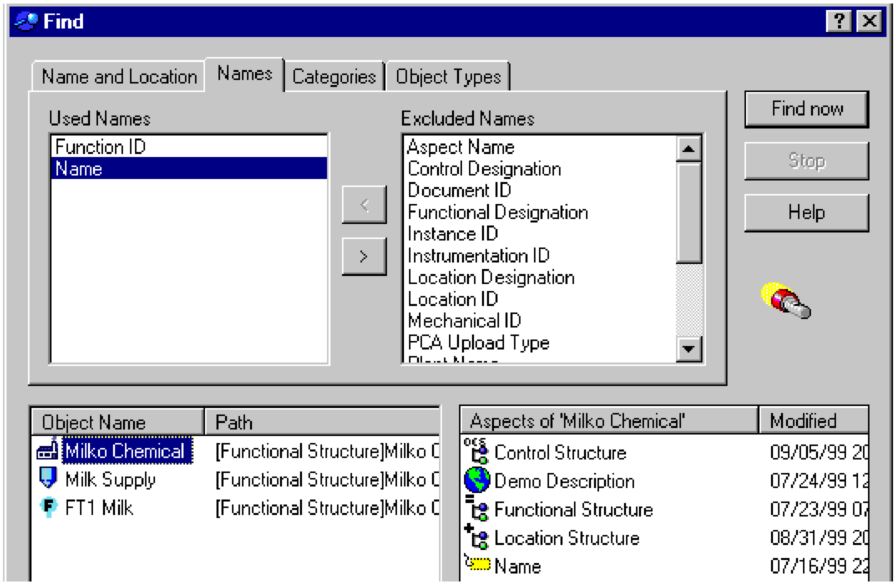
Figure 3-8. Find dialog

Names Tab

The next item to select is the **Names**. You select what **Names** categories to search in according to the steps below:

4. In the Find dialog, click the Names tab. Default the **Name** is set.
5. If you want to add other items to the **Name**, just double click on them in the **Excluded Name** list, and they will add in the **Used Name** list.
6. Repeat the previous step to include more name categories in your search.

You must have an item or a wild card in the **Used Names** field. If you want to search in all structures in the system, mark the **Search all structures**.



Used Names
- Function ID
- Name

Excluded Names
- Aspect Name
- Control Designation
- Document ID
- Functional Designation
- Instance ID
- Instrumentation ID
- Location Designation
- Location ID
- Mechanical ID
- PCA Upload Type

Object Name	Path
Milko Chemical	[Functional Structure]Milko C
Milk Supply	[Functional Structure]Milko C
FT1 Milk	[Functional Structure]Milko C

Aspects of 'Milko Chemical'	Modified
Control Structure	09/05/99 20
Demo Description	07/24/99 12
Functional Structure	07/23/99 07
Location Structure	08/31/99 20
Name	07/16/99 22

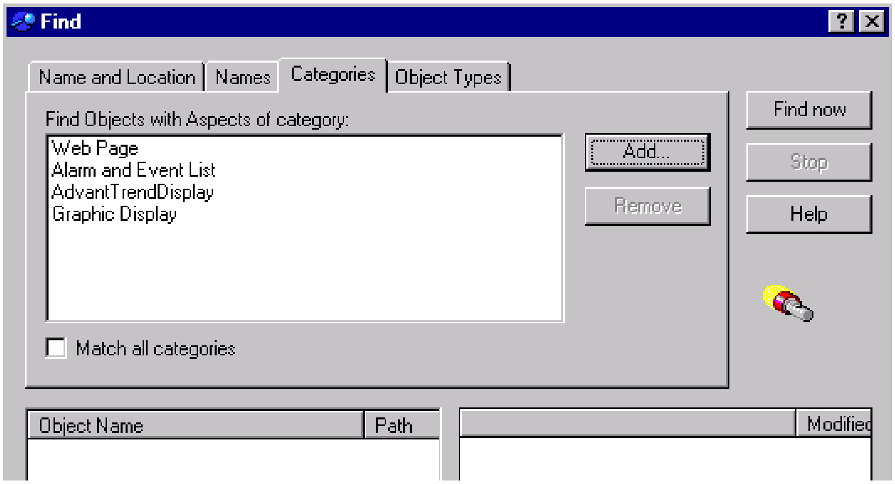
Figure 3-9. Find Name Categories tab

Categories Tab

You also have to define what aspect categories you want to search for. Do as below:

7. In the Find dialog, click the Categories tab. This brings up the categories search dialog.
8. Add the aspect categories you want to search for, by clicking the **Add** button. (See Figure 3-10.)
   This brings up the **Select Aspect Categories** dialog (see Figure 3-11).
9. In the Select Aspect Categories dialog box, click on all items you want to select. The become inverted as a mark that they are selected. When you have made the selection, click on the OK button. The selected items appears in the **Find Objects with Aspects of Category** fields in the **Category Tab** dialog box.

You must have an item or a wild card in the **Category** field.If you want to search in all categories in the system, mark the **Match all categories**.



Find Objects with Aspects of category:
Web Page
Alarm and Event List
AdvantTrendDisplay
Graphic Display

☐ Match all categories

Figure 3-10. Categories Tab

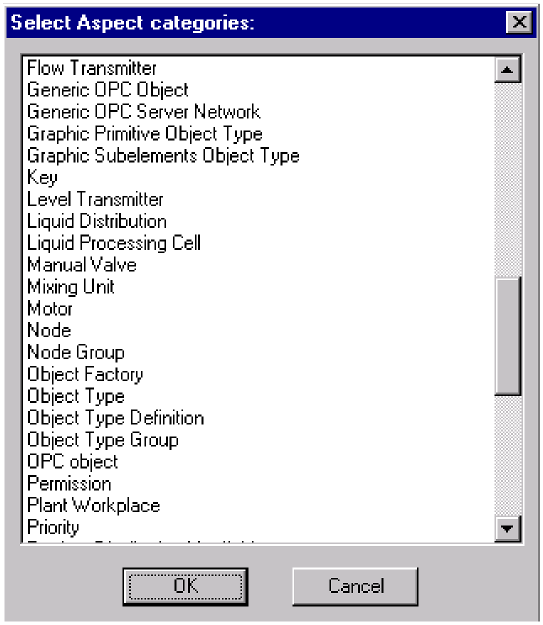
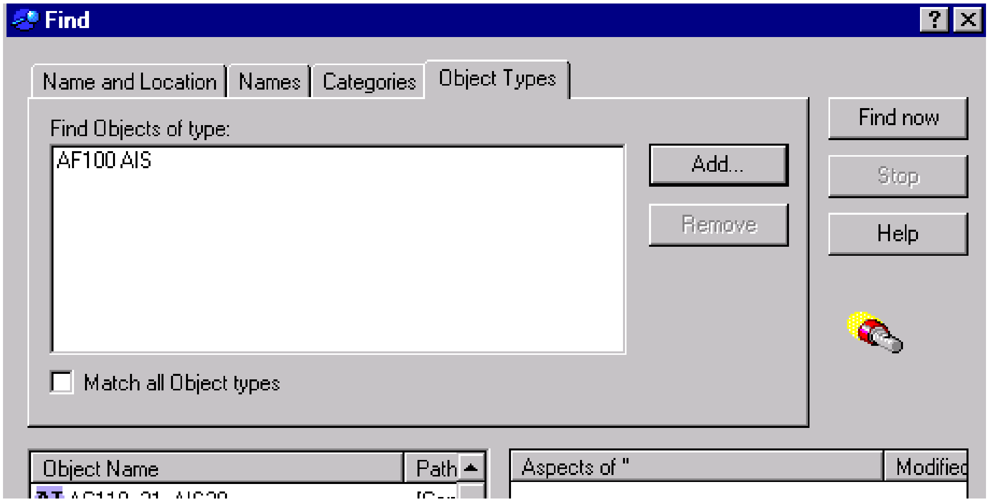


Figure 3-11. Aspect Categories Select Dialog Box

Object Types Tab

You also have to define what **Object Types** you want to search in. Do as below:

10. In the Find dialog, click the **Object Types** tab. This brings up the object types search dialog.
11. Add the **Object Types** you want to search for, by clicking the **Add** button. This brings up the **Select Object types** dialog.
12. In the Select Object Types dialog box, click on all items you want to select. They become inverted as a mark that they are selected. When you have made the selection, click on the OK button. The selected items appears in the **Find Objects of type** fields in the **Object Types** tab dialog box (see Figure 3-12).



Find Objects of type: AF100 AIS

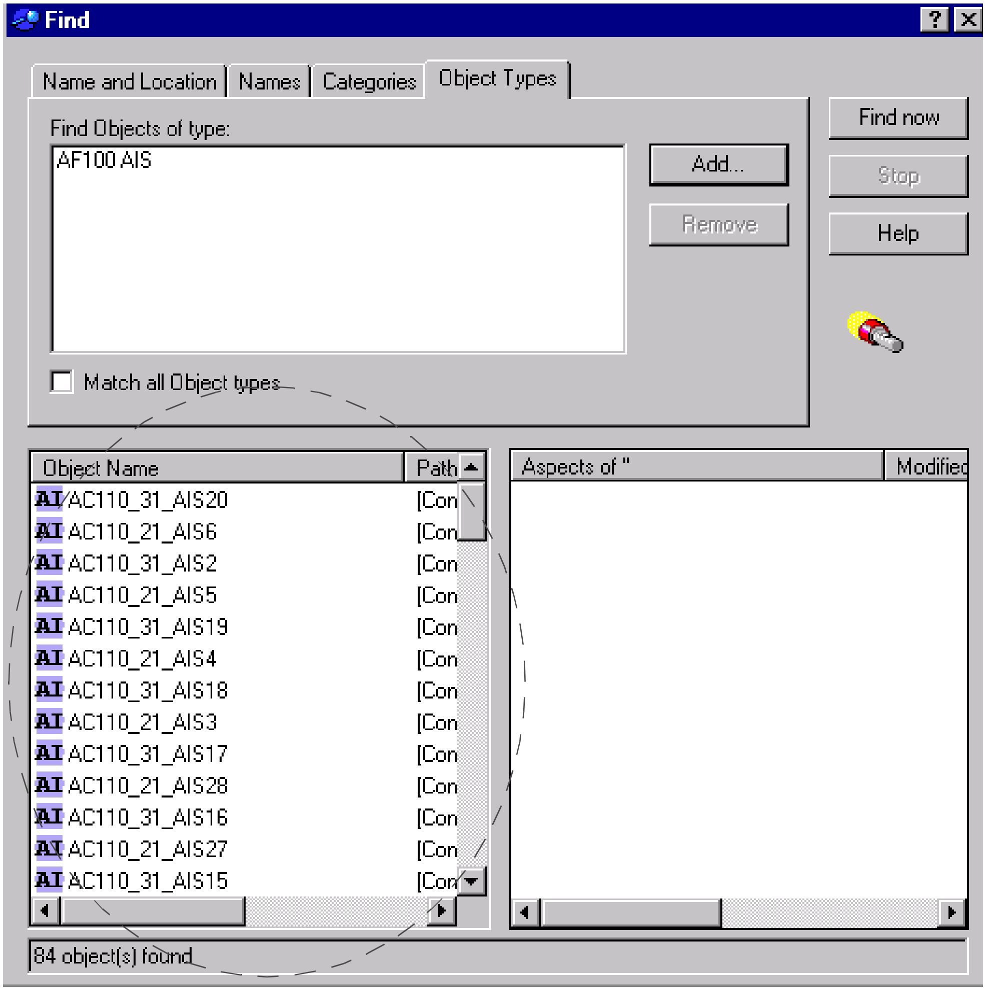
☐ Match all Object types

Figure 3-12. Object Types Tab

You must have an item or a wild card in the **Object Types** field.If you want to search in all categories in the system, mark the **Match all Object types**.

13. Click the **Find now** button.

14. The result of the search is presented in the lower part of the window. See Figure 3-13, where you can see the found objects in the marked area.



Find Objects of type:
AF100 AIS

☐ Match all Object types

Object Name	Path
AI AC110_31_AIS20	[Con
AI AC110_21_AIS6	[Con
AI AC110_31_AIS2	[Con
AI AC110_21_AIS5	[Con
AI AC110_31_AIS19	[Con
AI AC110_21_AIS4	[Con
AI AC110_31_AIS18	[Con
AI AC110_21_AIS3	[Con
AI AC110_31_AIS17	[Con
AI AC110_21_AIS28	[Con
AI AC110_31_AIS16	[Con
AI AC110_21_AIS27	[Con
AI AC110_31_AIS15	[Con

84 object(s) found

Figure 3-13. Result of a Find Search

If you click on an item in the **Object Name** field, its aspects are shown in the **Aspects of** field.

Chapter 4 How to Use Graphics

The main viewing window enables you to view object details in graphics (graphic elements and graphic displays) and respond to changes in them. This is useful if you are building a graphic and want to view the result, or if you are observing and supervising a process in a factory. All graphics are shown in run-time. This ensures that all values shown where there are data subscriptions are actual values.

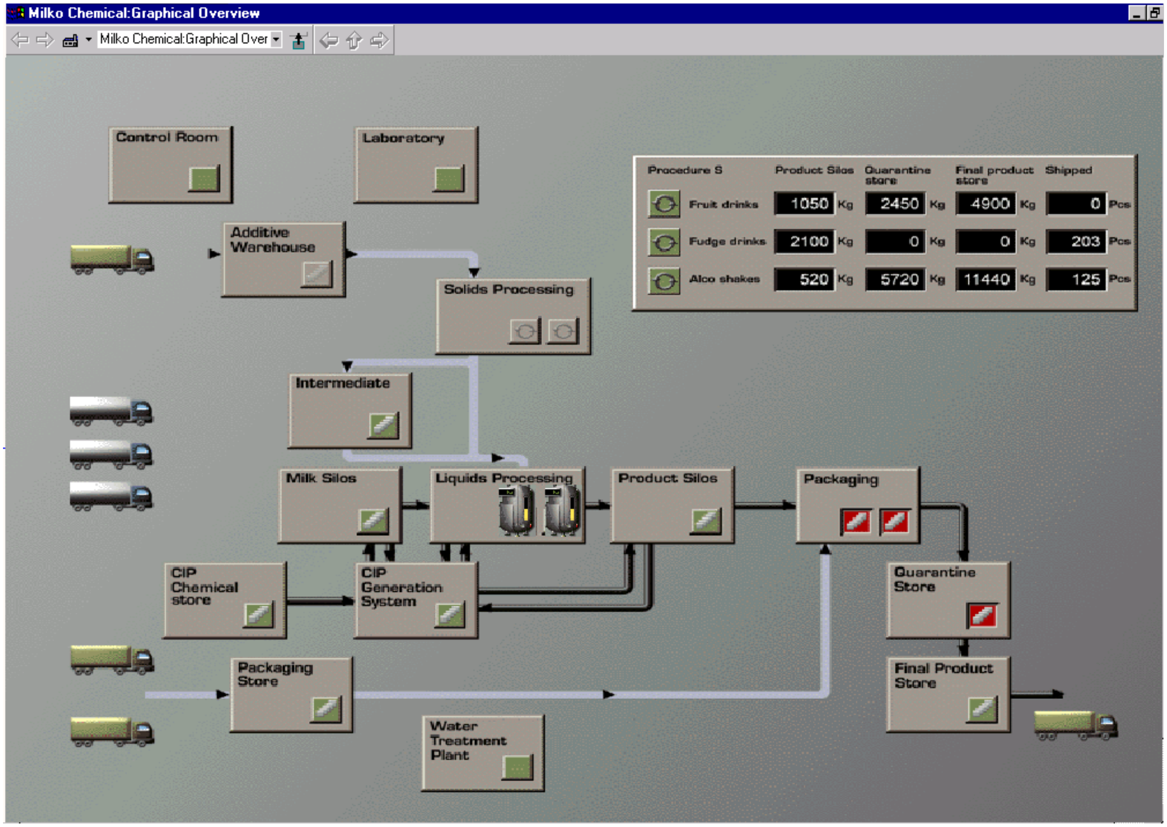
4.1 Accessing Process Displays

The Advant Workplace Window provides a number of navigation methods. The usage of those is thoroughly described and the configuration of them, where relevant, is described. The following navigation features exists:

- Display shortcuts provide you with one click access to pre-configured displays.
    - Permanent short-cuts shown in the Application Bar
    - Object dependent short-cuts shown in the Display Bar
- Browser shortcuts provide you with structure dependent shortcuts to displays.
- History lists, enabling a selection among your latest display selections.
- Back and Forward buttons, for navigation back and forward in the History list.
- The context menu, you reach it from your right mouse button, provides you with immediate access to the aspects of the selected object. The setting of the User profile aspect filter affects the content of the context menu.

4.2 Understanding Process Displays

A graphic display is an aspect of an ABB Object, which consist of static and dynamic graphic objects that provides both orientation and live process feedback.



Procedure S	Product Silos		Quarantine store		Final product store		Shipped	
Fruit drinks	1050	Kg	2450	Kg	4900	Kg	0	Pcs
Fudge drinks	2100	Kg	0	Kg	0	Kg	203	Pcs
Alco shakes	520	Kg	5720	Kg	11440	Kg	125	Pcs

Figure 4-1. Example of a Graphic Display

For more information about how to build, configure and use graphic displays, see *Advant Graphics User's Guide*.

4.2.1 Viewing Object Details

Viewing graphics is not a separate application. It is only used by Advant Workplace Window to display graphics and starts when you select one of the views of a graphic aspect.

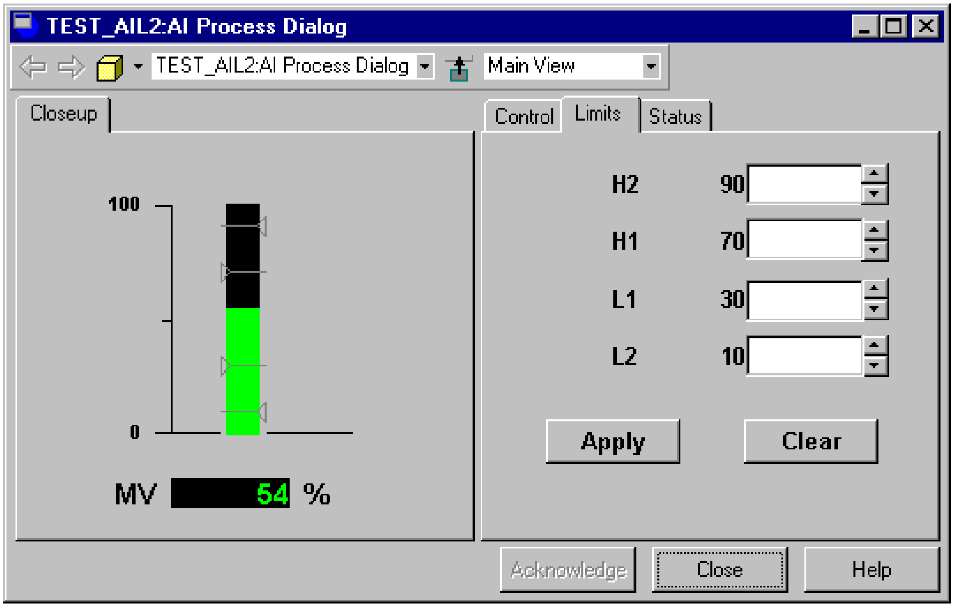
If you want to edit the graphic you are viewing, right-click and select Edit in the context menu. This takes you to Advant Graphics Builder where you can edit the graphic. This action is only possible if you have application engineers privileges.

4.2.2 Object Marking

A graphic element in a graphic display which is connected to an ABB Object is highlighted when you place the cursor over it.

4.3 Understanding Process Dialogs

A process dialog is a type of graphic configured from the process dialog window and used for process information and control.



H2	90	
H1	70	
L1	30	
L2	10	

Figure 4-2. Example of a Process Dialog

The process dialog window has three views:

- Main Window
- Object Display
- Configuration View.

The first two are used to view the selected aspects for the process dialog and the third is used to change the configuration of the process dialog.

The contents of new process dialog aspects depends on what you have defined for process dialogs in the process dialog user profile in Advant Plant Explorer. Aspects included in the categories you select are automatically presented as tabs in the process dialog - that is, if they exist for the selected ABB Object.

The only time the information in a process dialog is predefined is when you create an ABB Object of a process object type (that is, AIS, AOS, DOS etc.). The process dialog is then created at the same time as you create the new ABB Object.

If you later want to change the configuration of a process dialog, select its Configuration View and make the changes. You can use a combination of automatic and manual configuration, to add specific aspects to the autoloaded ones.

Some features are specific to the process dialog. These are:

- Process dialog user profile
- Selecting the process dialog aspect from the context menu whenever the object is presented
- Configuration View

4.4 Using Process Dialogs

The process dialog is accessed by:

- Clicking on an object on the screen (the most common way) or
- Double clicking on the Process Dialog aspect in Advant Plant Explorer.

You access the process dialog user profile from Advant Plant Explorer.

Chapter 5 How to Use Alarm and Event Lists

Advant Alarms is the alarm and event message handler. Alarm lists or event lists are presented in a table type format. An alarm logger is supported for printer output. Alarm Banding provides a summary display for selected alarm lists. The system message server holds a first-in-first-out queue of alarm and event messages. Alarms and Events are treated in a consistent way (an alarm is an event that alerts you to an abnormal state and needs to be acknowledged). Advant Alarms handles alarm and event data for objects and process graphics and provides alarm acknowledgement. Alarm list configurations can be shared between lists.

As an operator, you can view alarms according to the selected filter and presentation settings or you can easily make changes. For example, a list can be sorted by clicking on a head line, columns can be resized or they can be moved using the drag and drop interface. Filtering and presentation functions let you view alarms in dedicated ways as well as monitor and maintain the plant in a more effective way. For example, a list can show all alarms or only those for the associated object and its descendants. A details page is also associated with each item in the alarms list.

Alarm acknowledgment or silencing of local audible sounds is fast and easy. Acknowledgement and silencing can be made within a list for single or several selected alarms or for multiple alarms by page or entire list. You can also acknowledge an alarm when it occurs on an object within process graphics.

Up to 1000 priorities (depending on the controller type) can be defined with acknowledge and unacknowledged colors. Audible annunciation can be set to any sound file (in ".wav" format) and played once or until acknowledgement. Date formats are selectable and time stamps can be generated (as from the controller) or received (at the Advant Station). Customized set-ups can be used for other alarm lists.

5.1 Accessing Alarm and Event Lists

There are several ways to access an Alarm or Event list for an ABB Object. The following are some typical examples that might be configured:

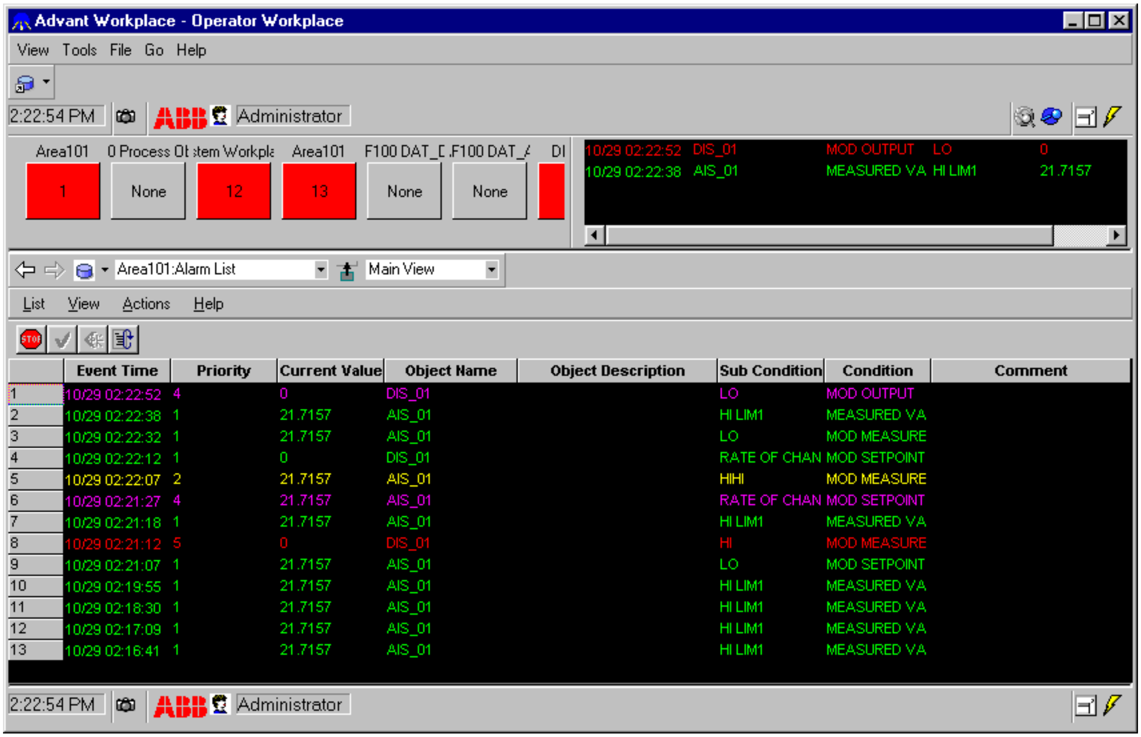
- from an alarm or event line display on the Application Bar aspect of the operator display using the context menu

- from an Alarm Band display also on the Application Bar
- from a display shortcut on the Application Bar (always available) or Display Bar (only available when display is active)
- from the context menu you get when you for example right-click on an object in the graphic display
- from within a structure by selecting a list configured for an object

Details of the user interface and different display access methods are described in the *Advant Workplace Window User's Guide.*

For example to select a list from within a workplace with an application bar configured with an alarm band an alarm line as shown in Figure 5-1:

1. Click on the appropriate Alarm Band (Area 101 as shown)
2. This will open the Alarm List for Area 101 (part of a functional structure). The alarm list **Main View** is the primary action verb invoked by clicking on the Alarm Band.



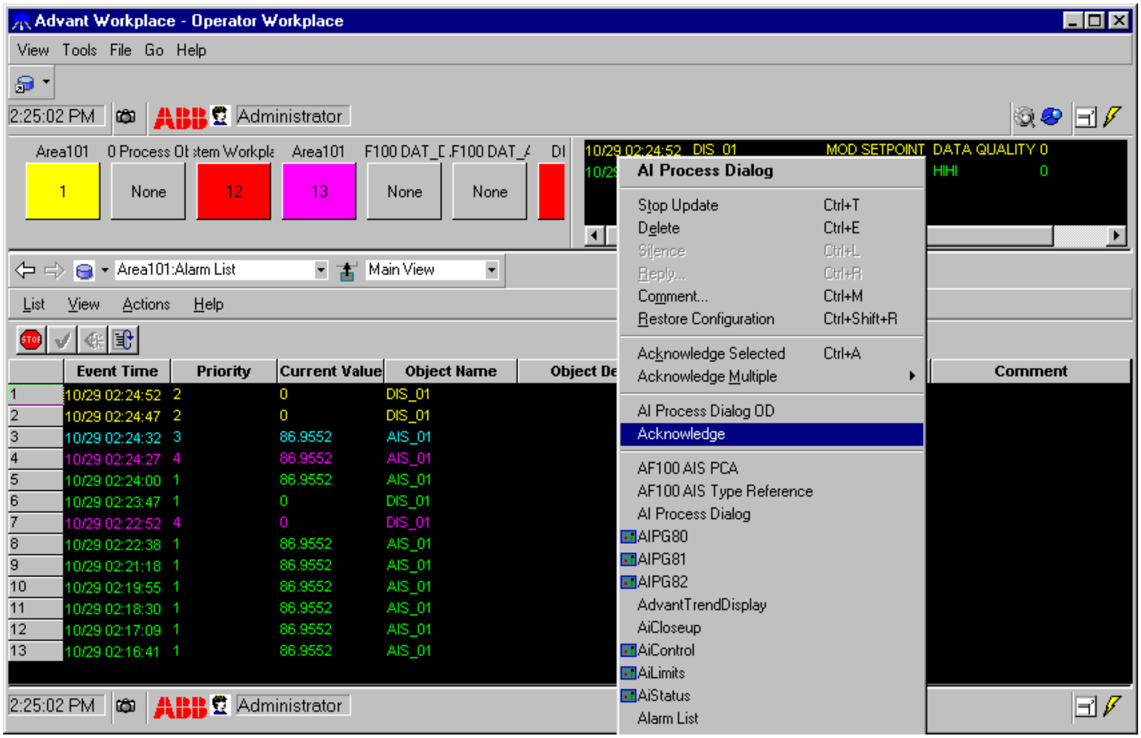
10/29 02:22:52 DIS_01 MOD OUTPUT LO 0
10/29 02:22:38 AIS_01 MEASURED VA HI LIM1 21.7157

	Event Time	Priority	Current Value	Object Name	Object Description	Sub Condition	Condition	Comment
1	10/29 02:22:52	4	0	DIS_01		LO	MOD OUTPUT	
2	10/29 02:22:38	1	21.7157	AIS_01		HI LIM1	MEASURED VA	
3	10/29 02:22:32	1	21.7157	AIS_01		LO	MOD MEASURE	
4	10/29 02:22:12	1	0	DIS_01		RATE OF CHAN	MOD SETPOINT	
5	10/29 02:22:07	2	21.7157	AIS_01		HIHI	MOD MEASURE	
6	10/29 02:21:27	4	21.7157	AIS_01		RATE OF CHAN	MOD SETPOINT	
7	10/29 02:21:18	1	21.7157	AIS_01		HI LIM1	MEASURED VA	
8	10/29 02:21:12	5	0	DIS_01		HI	MOD MEASURE	
9	10/29 02:21:07	1	21.7157	AIS_01		LO	MOD SETPOINT	
10	10/29 02:19:55	1	21.7157	AIS_01		HI LIM1	MEASURED VA	
11	10/29 02:18:30	1	21.7157	AIS_01		HI LIM1	MEASURED VA	
12	10/29 02:17:09	1	21.7157	AIS_01		HI LIM1	MEASURED VA	
13	10/29 02:16:41	1	21.7157	AIS_01		HI LIM1	MEASURED VA	

Figure 5-1. Alarm List within Advant Workplace

3. Right clicking on the Alarm Line within the Application Bar, for example, invokes the context menu of related actions, Figure 5-2.

You can work with the alarm list as described in Section 5.2, Working with Alarm and Event Lists. Event and System Message lists are handled in a similar manner.



	Event Time	Priority	Current Value	Object Name	Object De	Comment
1	10/29 02:24:52	2	0	DIS_01		
2	10/29 02:24:47	2	0	DIS_01		
3	10/29 02:24:32	3	86.9552	AIS_01		
4	10/29 02:24:27	4	86.9552	AIS_01		
5	10/29 02:24:00	1	86.9552	AIS_01		
6	10/29 02:23:47	1	0	DIS_01		
7	10/29 02:22:52	4	0	DIS_01		
8	10/29 02:22:38	1	86.9552	AIS_01		
9	10/29 02:21:18	1	86.9552	AIS_01		
10	10/29 02:19:55	1	86.9552	AIS_01		
11	10/29 02:18:30	1	86.9552	AIS_01		
12	10/29 02:17:09	1	86.9552	AIS_01		
13	10/29 02:16:41	1	86.9552	AIS_01		

Figure 5-2. Context Menu of Related Actions

5.2 Working with Alarm and Event Lists

Alarm or event lists share common menu items. There are cases where a menu item is not applicable. For instance, you can not acknowledge an event.

The window for using Alarm and Event lists is described in Section 5.2.1, Alarm and Event List Window.

5.2.1 Alarm and Event List Window

After accessing the Alarm and Event list for an ABB Object, as described in Section 5.1, Accessing Alarm and Event Lists, you can use this window to:

- Move around the message list, Section 5.2.2, Working within a List
- Access the **Actions** pop-up window, Section 5.2.3, Working with the Actions Menu
- Acknowledge alarms, Section 5.2.4, Acknowledging Alarms
- Silence Alarms, Section 5.2.5, Silence Alarms
- Deleting messages, Section 5.2.6, Deleting Alarms and Events
- Stopping message updates, Section 5.2.7, Stopping and Starting Alarm and Event Updates
- Replying to a Message, Section 5.2.8, Replying to a Message
- Enter Comments for Messages, Section 5.2.9, Entering Comments for Messages
- Find a message or messages, Section 5.2.10, Finding a Message
- Open, Save, Save As (Not implemented)
- Print a list, Section 5.2.11, Printing Lists
- See different details about a message, Section 5.2.12, Viewing Alarm and Event Message Detail Information
- Copying and Pasting, Section 5.2.13, Copying and Pasting into Other Applications

5.2.2 Working within a List

Operator activities describing how to work with a list are described here.

5.2.2.1 Marking and Selecting Rows in Lists

The different methods of selecting rows are:

- Click on a row to select it. A selected row becomes highlighted.
- Press the Ctrl key and click on another row to select nonsequential rows.
- Press the Shift key to select a sequential group of rows. For example, select row 2, hold the Shift key and then select row 9 to select rows 2 through 9.
- Click and drag to select a sequence or rows.
- Click and use the up and down arrow keys to select a sequence of rows.
- Press Ctrl+Home and then Ctrl+Shift+End to go to the beginning of the list and then select the whole list

When a row is marked/selected you can take 'Actions' on the message or view the Details. If more than one row is marked then the action takes place on all the marked rows if the action is applicable. For example, suppose 3 object lines have been selected and 2 of the 3 objects are unacknowledged, then selecting Ack will have no effect on the object which is already acknowledged.

5.2.2.2 Navigating within Message Lists

Navigating the table is much like moving about a spreadsheet. The different methods of moving about a list are:

- Slide the scrollbars (if available due to window size) to view an area
- Press Page Up or Page Down to move one screen at a time
- Press Ctrl+Home or Ctrl+End to go to the beginning or end of the list
- Use the up and down arrow keys on the keyboard or a pointing device (mouse or trackball) to move between the rows in the list
- Use the left and right arrow keys on the keyboard to move between columns in a row

5.2.2.3 Sizing Columns and Rows

Size a column by grabbing the column header edge and moving it right or left. Size a row by grabbing a row bottom or select all rows and moving the bottom edge up or down. This change is only in effect while this view is active.

5.2.2.4 Sorting on Columns

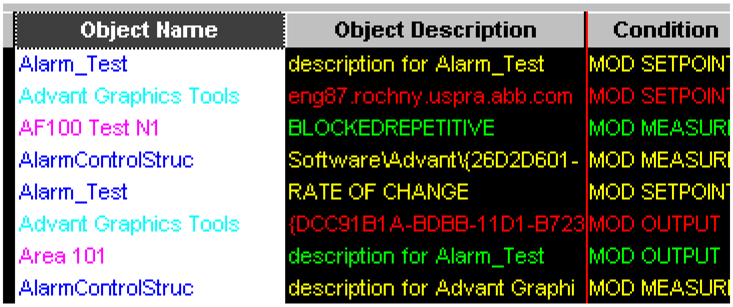
Double click on a column header with the left mouse button to sort the column. Repeat this action to reverse the sort. For example, sorting Object Name once may cause the items in the list to be sorted in alphabetical order (A...Z). Sorting a second time will cause the sorting to be reversed (Z...A). Note that when a new message arrives, the list converts back to the configured sort criteria. You might elect to Stop Updates while viewing a particular sort.

5.2.2.5 Moving Columns

You move columns by:

1. Select a column to move by clicking on the column header (as indicated by a down arrow cursor). This will highlight the column as shown in Figure 5-3.
2. Click and drag the column to a new location. A red line marks the position between columns where you can place the column.

In a similar manner, two adjacent columns can be selected and moved.This change is only in effect while this view is active.



Object Name	Object Description	Condition
Alarm_Test	description for Alarm_Test	MOD SETPOIN
Advant Graphics Tools	eng87.rochny.uspra.abb.com	MOD SETPOIN
AF100 Test N1	BLOCKEDREPETITIVE	MOD MEASUR
AlarmControlStruc	Software\Advant\{26D2D601-	MOD MEASUR
Alarm_Test	RATE OF CHANGE	MOD SETPOIN
Advant Graphics Tools	{DCC91B1A-BDBB-11D1-B723	MOD OUTPUT
Area 101	description for Alarm_Test	MOD OUTPUT
AlarmControlStruc	description for Advant Graphi	MOD MEASUR

Figure 5-3. Moving a Column in an Active List

5.2.3 Working with the Actions Menu

The Actions Menu, Figure 5-4 contains the activities shown and explained in the following paragraphs. In addition to this menu, selecting on a message line with the right mouse button will instantiate the Context menu in a pop-up form. This is a means of quickly taking action on a message line. The context menu also includes actions available from all aspects of an object.

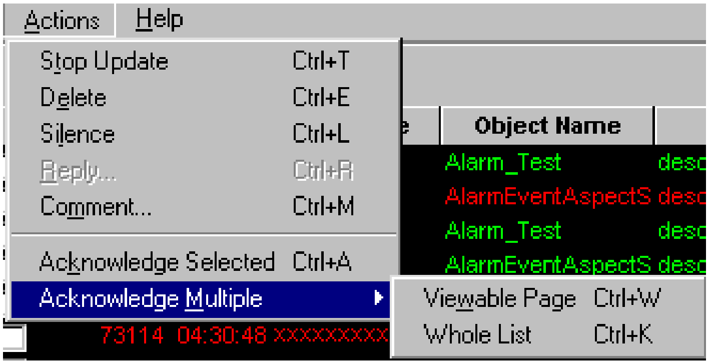


Figure 5-4. Actions Menu

5.2.4 Acknowledging Alarms

You can Acknowledge Alarms for an ABB Object in the following ways:

- Click on the **Ack State** box for the alarm in the list to acknowledge the one alarm
- Select a group of individual alarms and then
  - press Ctrl+A or
  - select **Actions** > **Acknowledge Selected** or
  - select the acknowledge button (green check mark)
- Select **Actions** > **Viewable Page** or Ctrl+W to acknowledge all alarms that you can currently see in the active window
- Select **Actions** > **Whole List** or Ctrl+K to acknowledge all alarms on the active list
- by right clicking on an object in, for example, a process display or process graphic, then clicking on the Acknowledge verb in the context menu.

5.2.5 Silence Alarms

To silence an audible alarm, select **Actions** > **Silence** or press Ctrl+L. This is a one shot type action that silences the current audible alarm. If a new audible alarm then occurs, that alarm must also be silenced.

5.2.6 Deleting Alarms and Events

To delete an alarm or event:

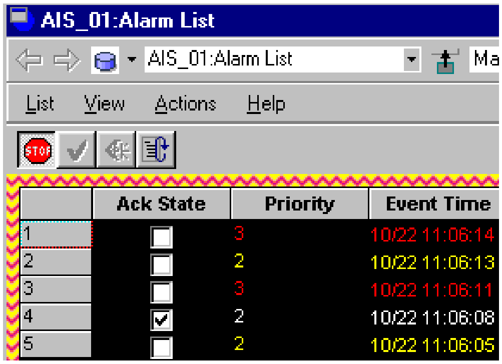
1. Select one or a group of rows to delete
2. Select **Actions** > **Delete** or press Ctrl+E.

5.2.7 Stopping and Starting Alarm and Event Updates

You can stop or restart list updates using the STOP icon or Stop Update selection.

5.2.7.1 Stopping Updates

Select **Action** > **Stop Update** (Ctrl+T or press the STOP icon) to stop new alarms or events from being displayed. This feature acts as a *freeze frame*. No messages are added to or removed from the list and the current values are not updated. For example, if an alarm is acknowledged and the alarm is currently being display, the acknowledgement will not be displayed. The list shows a red/yellow border when stopped.



	Ack State	Priority	Event Time
1	☐	3	10/22 11:06:14
2	☐	2	10/22 11:06:13
3	☐	3	10/22 11:06:11
4	☑	2	10/22 11:06:08
5	☐	2	10/22 11:06:05

Figure 5-5. Stopping Updates

5.2.7.2 Starting Updates

Selecting Stop Update or the STOP icon again acts as a toggle and starts the updates by posting the new alarms and events per your configuration.

5.2.8 Replying to a Message

Select **Action** > **Reply** (Ctrl+R) to open a dialog which allows a time-stamped message reply to be entered for alarm messages. (PENDING)

5.2.9 Entering Comments for Messages

Select **Action** > **Comment** (Ctrl+M) to open a dialog which allows a message comment to be entered. This is available for all message types.

5.2.10 Finding a Message

Select **List** > **Find** (Ctrl+F) to find information that matches your search string. When selected, a standard Find dialog box is instantiated.

Enter a search string in the **Find What** box that can be used to find a matching string in the current list. Find options include, **Match case** (search recognizes difference between upper and lower case letters in the search string), and **Up** or **Down** (search, from current location, in either the up or down direction). If a match is found, the line becomes highlighted (selected). Use **Find Next** to find additional matches (each match is added to the selection group).

5.2.11 Printing Lists

To print the whole list or the part of the list that is in view, select **List > Print** (Ctrl+P) from the menu bar to open the standard Windows print dialog.

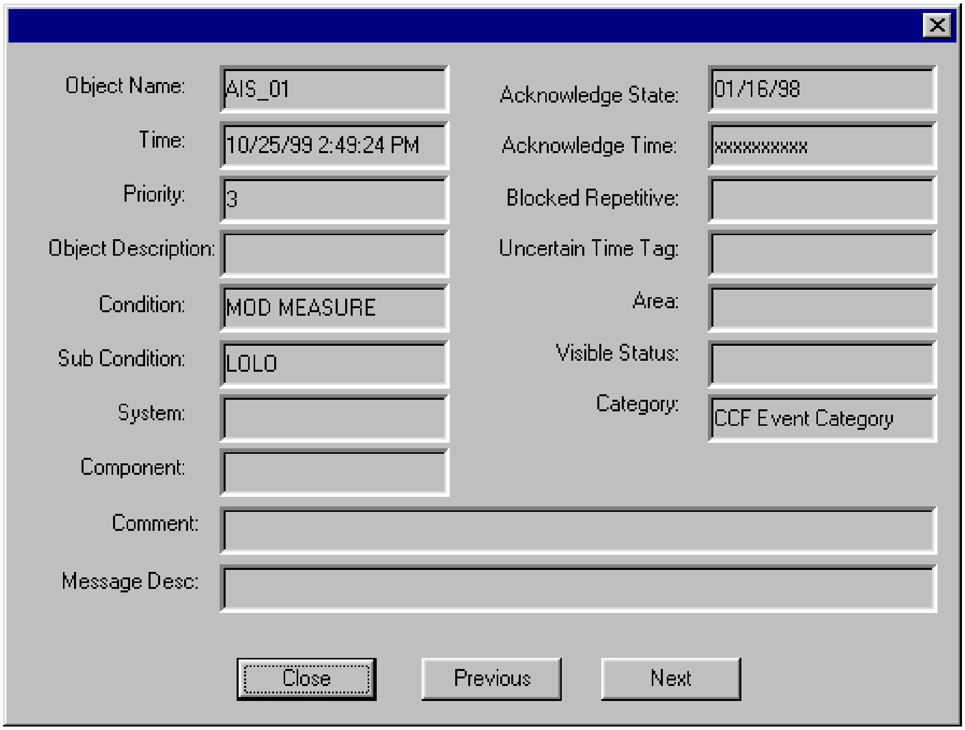
To print preview the whole list or the part of the list that is in view, select **List > Print Preview** (Ctrl+I) from the menu bar to open the standard Windows print dialog.

5.2.12 Viewing Alarm and Event Message Detail Information

To view an Alarm and Event message for detail information, do as follows:

1. Select a message row.
2. Select **View** > **Details** (Ctrl+D) to view the details dialog for a message, Figure 5-6.

The Detail dialog shows detailed information on all the possible fields for a message type. You cannot edit this dialog; it is simply for viewing purposes.



Object Name:	AIS_01	Acknowledge State:	01/16/98
Time:	10/25/99 2:49:24 PM	Acknowledge Time:	xxxxxxxxxx
Priority:	3	Blocked Repetitive:	
Object Description:		Uncertain Time Tag:	
Condition:	MOD MEASURE	Area:	
Sub Condition:	LOLO	Visible Status:	
System:		Category:	CCF Event Category
Component:			
Comment:			
Message Desc:			

Figure 5-6. Message Detail Dialog

5.2.12.1 Message Detail Dialog Buttons

The message detail dialog buttons are listed below:

- **Close** will close the dialog.
- **Next** will show the Detail dialog for the next (going down the list) message.
- **Previous** will show the Detail dialog for the previous (going up the list) message.
- **Help** shows the help information for this dialog.

5.2.12.2 Message Detail Definitions

The message detail definitions are:

• **Object Name**	basic property name of object (an aspect of every object)
• **Time**	time alarm was generated
• **Priority**	priority of alarm message, from 1-1000, with 1000 being the most important priority.
• **Object Description**	object specific information entered in the Object Manager
• **Condition**	alarm condition, provided by control network
• **Sub Condition**	state of the condition
• **System**	name of the server PC where the message was generated (applies to system messages)
• **Component**	the name of the software function that sent the system message
• **Comment**	operator added information
• **Message Description**	the message text in most system messages
• **Acknowledge State**	status of current message (acknowledged or unacknowledged)
• **Acknowledge Time**	time when you acknowledged alarm
• **Blocked Repetitive**	Boolean value that says that the alarm is being generated too many times, so system stops displaying it
• **Uncertain Time Tag**	comes from controller indicating that controllers are not time synchronized, time stamp as *alarm received*
• **Area**	grouping of objects (PENDING)
• **Visible Status**	visible
• **Category**	corresponds to the alarm and event categories you select in the configuration -.filter selection

5.2.13 Copying and Pasting into Other Applications

To copy a line or lines on a list, select the lines of interest and press Ctrl+C (copy) to place the marked message(s) into the Windows clipboard. You can then open Wordpad, for example, and paste the text (Ctrl+V) into the application.

5.3 Working with the Alarm and Event Logger

Operation of the Alarm Event logger is through the configuration dialog, Figure 5-7. Use this dialog to do the following:

Logger Printer Name

Use the pull down list to select a line printer. The appropriate printer driver is installed in windows and displayed in the pull down list of installed printers.

Logger Configuration Name

Enter any appropriate name.

Start

Select Start to change the logger status from stopped to running.

Stop

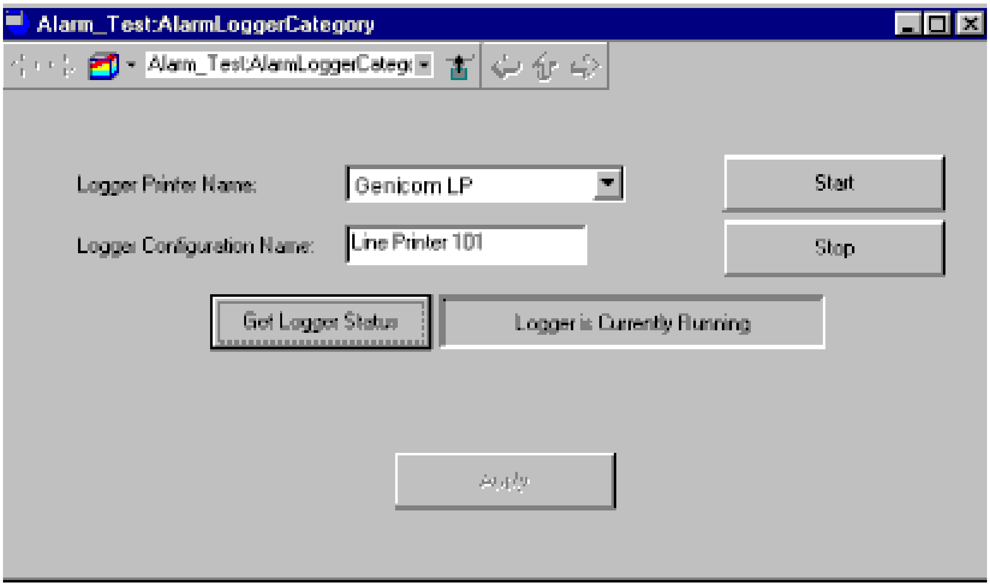
Select Stop to change the logger status from running to stopped.

Get Logger Status

Select Get Logger Status to refresh

Apply

Select Apply after making a change to the logger printer name or logger configuration name.



Logger Printer Name: Genicom LP

Logger Configuration Name: Line Printer 101

Logger is Currently Running

Figure 5-7. Logger Configuration Dialog

5.4 Working with Alarm Band

The Alarm Band display is a status display that provides a link to the alarm or event list display. The number within the band represents the number of active alarms or events. The color of the band represent the highest priority alarm or event present. Select the alarm band (button) to go to the alarm or event list.

Right-click to bring up the context menu to select another aspect of the object or plant area presented on the display.

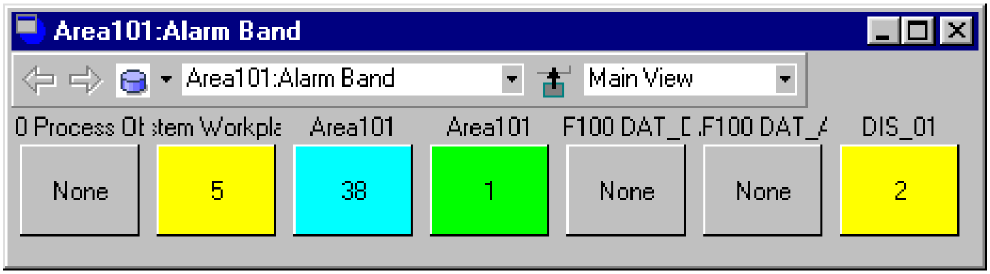


Figure 5-8. Alarm Band Display

Chapter 6 How to Use Trend Displays

Advant Trends lets you build and operate custom trend displays. Each display is associated with a specific plant object such as a plant area, unit, or tag. These plant objects are managed via the Advant Plant Explorer. Any plant object that you need to monitor trend data for must have an associated TrendDisplay aspect. Process objects have a default TrendDisplay aspect so you can begin viewing trend data without having to perform any configuration. For other object types you must create the TrendDisplay aspect via the Plant Explorer.

6.1 Accessing Trend Displays

Trend displays are opened via the Plant Explorer as described in Application Startup on page 58.

Learning About the Trend Display

To learn about the layout and method of operation for trend displays, see Section 6.2, Understanding Trend Displays.

Working with Trend Displays for Process Objects

Even though process objects have a default trend display configuration that you can use without further configuration, you may want to adjust certain trend display properties. See Section 6.3.2, Using and Working with Trend Data.

To learn how to view and manipulate trend data via the trend display, see Section 6.3.2, Using and Working with Trend Data.

Working with Trend Displays for Other Object Types

For other object types, the very first time you open the trend for an object, the display is empty. (Requires that trend is a default aspect of each object type.) In this case, you must build the display by adding traces and configuring trend display properties. See Section 6.3.2, Using and Working with Trend Data.

Application Start-up

To open a trend display:

1. Start the Plant Explorer from the Workplace Manager.
2. Navigate to the plant object whose trend display you want to open.
3. You can open the trend display in the current window, or open a new window: To open the trend display in the current window, select the TrendDisplay aspect, then drag and drop it in the Workplace Manager drop area.

To open the trend display in a new window, simply double-click on the TrendDisplay aspect.

6.2 Understanding Trend Displays

Configuring Trend Displays

Trend displays for process objects are pre-configured. Trend displays for other object types must be configured in runtime. This involves selecting one or more data sources whose trend data you want to display, and configuring trend display properties such as time period, various display colors, and so on.

After initial set up of trend displays, you can make adjustments to display properties such as showing/hiding traces, adding/deleting traces, and changing trace colors.

Using Trend Displays

The trend display provides both a Graphical View and Table View of trend data. These two views let you:

- freeze the graphical view in time by pausing updating of the graphical view.
- pan the graphical view left and right.
- zoom in to see greater detail, and zoom out to see a wider time scope.
- select a point in time on the graphical view, and read the corresponding times and values for each trace.
- capture data from either the graphical or table view, and then paste the data in a third party application such as Microsoft Excel.

6.2.1 Trend Display Overview

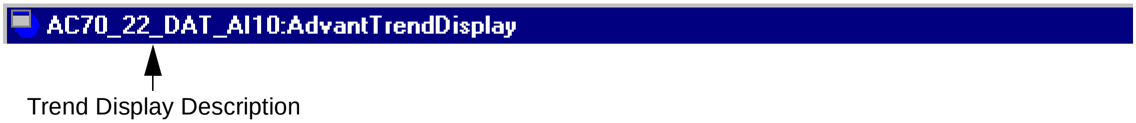
The Trend Display is functionally divided into five areas as described in:

- Section 6.2.1.1, Frame Bar
- Section 6.2.1.2, Graphical View Area
- Section 6.2.1.3, Trend Table
- Section 6.2.1.4, Context Menu
- Section 6.2.1.5, Tool Bar

The status bar is provided by the Workplace manager. Any error indications or other status information are displayed in the status bar.

6.2.1.1 Frame Bar

The frame bar is provided by the Workplace Manager. The description as shown in Figure 6-1 is specific to the trend display.



AC70_22_DAT_AI10:AdvantTrendDisplay

Figure 6-1. Frame Bar

6.2.1.2 Graphical View Area

The graphical view shows trend data as traces, Figure 6-2.

Graphical View Area

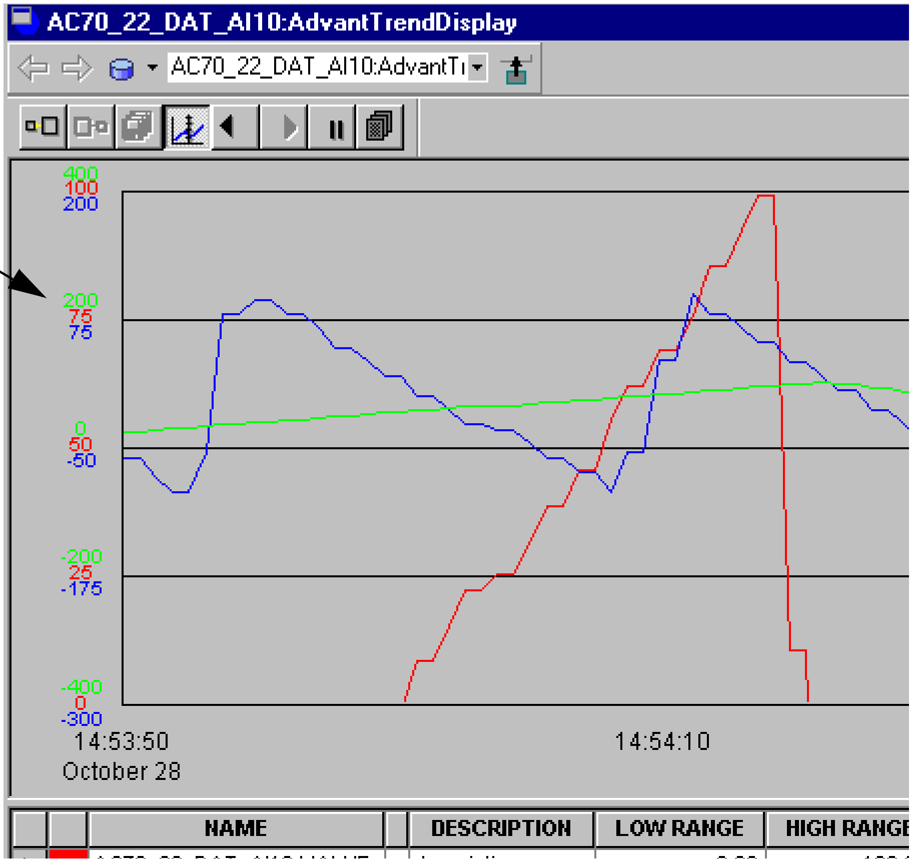


Figure 6-2. Graphical View Area

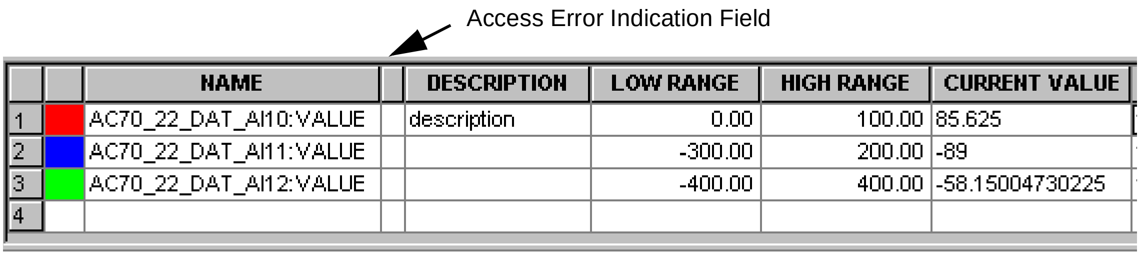
The graphical view tools let you manipulate the view in a variety of ways. What you can do with traces, and trend data is described in Section 6.3.2, Using and Working with Trend Data.

The graphical view area is edge (border) sensitive. If you click and drag the mouse over the grid edge, the trend view starts to scroll in that direction. This is typically the case when you use zooming and the ruler.

6.2.1.3 Trend Table

The table view provides the following data for each trace in the Graphical View: Row Number, Color, Name, Access/Error Indication, Description, Low Range, High Range, Current Value, Ruler Time, Ruler Value, Time Offset, Filter, Form.

An example of a table view is shown in Figure 6-3.

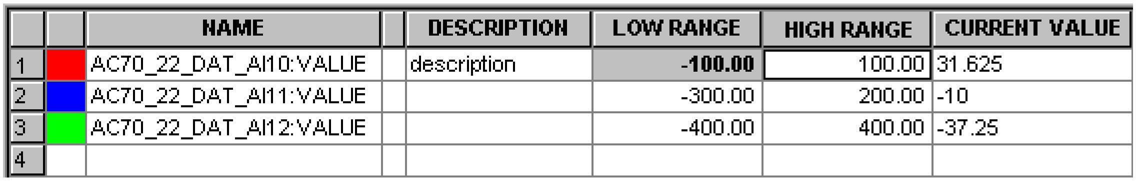


Access Error Indication Field

		NAME		DESCRIPTION	LOW RANGE	HIGH RANGE	CURRENT VALUE
1	🟥	AC70_22_DAT_AI10:VALUE		description	0.00	100.00	85.625
2	🟦	AC70_22_DAT_AI11:VALUE			-300.00	200.00	-89
3	🟩	AC70_22_DAT_AI12:VALUE			-400.00	400.00	-58.15004730225
4							

Figure 6-3. Table View

Some table items can be manipulated by you. Any table item that has been changed from it's last saved state is shown with a different background style. This is a visual indication that the data in the table is different than that which is currently stored for the view. As an example, see the LOW RANGE field in Figure 6-4.



		NAME		DESCRIPTION	LOW RANGE	HIGH RANGE	CURRENT VALUE
1	🟥	AC70_22_DAT_AI10:VALUE		description	**-100.00**	100.00	31.625
2	🟦	AC70_22_DAT_AI11:VALUE			-300.00	200.00	-10
3	🟩	AC70_22_DAT_AI12:VALUE			-400.00	400.00	-37.25
4							

Figure 6-4. Table Value Changed Indication

Row Number

This is the index number for a specific trace in the table view. Selecting this cell with the left mouse button highlights the entire row. You can alternately show or hide the corresponding trace by double-clicking this cell.

Color

This column is color coded to match the trace in the table view. Clicking this cell displays the Color Selection dialog to let you change the color for the corresponding trace.

Name

The name is defined when you add a trace to the table view. This field indicates the OPC tag that is the data source for the trace. You can change the data source for the trace by clicking this field to display the Change Data Source dialog.

Access/Error Indication

This cell provides feedback on data collection. This cell blinks yellow when a subscription for new data is sent. The color changes to red in the event that any problems are encountered while collecting data.

Description

This is the description of the data source as specified when you added the trace. The description can not be changed here.

Low Range

By default, this cell indicates the lower range displayed on the y-axis for the trace. You can edit this cell directly to override the default and specify another range, Changes to this field are only valid for this trace in this Trend Display.

High Range

By default, this cell indicates the high range displayed on the y-axis for this trace. You can edit this cell directly to override the default and specify another range. Changes to this field are only valid for this trace in this Trend Display.

Current Value

This shows the latest stored value for the data source. This value is continuously updated unless something goes wrong with the subscription, or the trend display is in blocked mode.

Ruler Time

This column indicates the time corresponding to the current ruler position (when ruler is active). If a time offset has been applied to one or several traces, the times in this column will differ for each trace. If you place the ruler between two data points for a trace, the stored time for the closest point is used.

Ruler Value

This column indicates the value for each trace corresponding to the current ruler position. If you place the ruler between two data points for a trace, the stored value for the closest point is used.

Time Offset

This cell shows the time offset for the trace. You can set the time scope directly by selecting the cell, and then entering the desired offset.

Filter

This cell shows the type of filter and, if needed, the parameters. For example, MAvg(100) indicates this trace is filtered through a moving average filter using 100 historical values to draw one value. The first release of this product will only support MAvg filter.

To edit this cell, double-click to display a dialog, and then use this dialog to select the filter and specify the parameters for it.

Form

This cell shows the drawing form used to draw the trace in the Graphical View. You can use the corresponding pull-down menu to change the drawing form. The choices are: LINE, STEP, and BAR. See Figure 6-5 for examples.

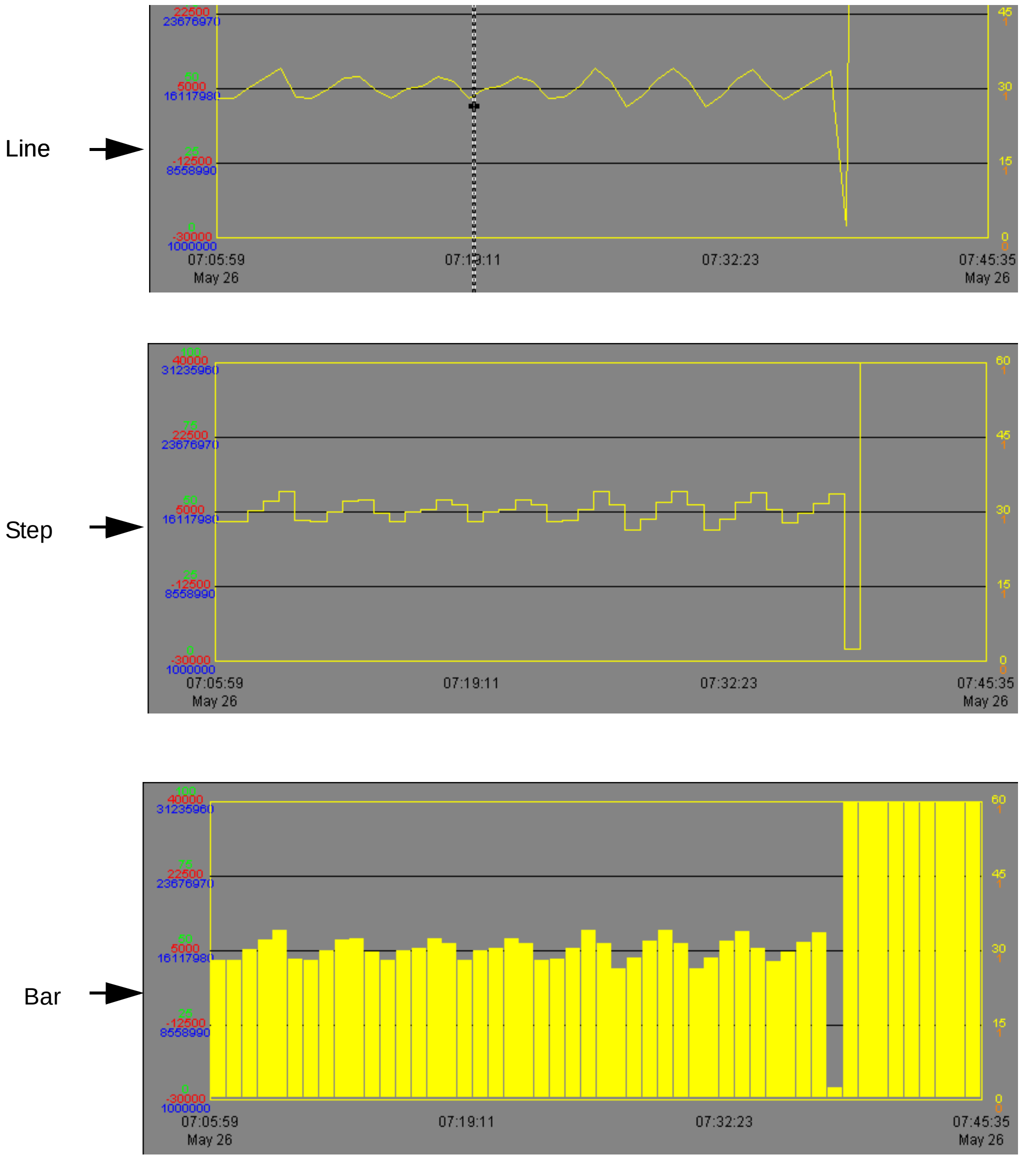


Figure 6-5. Example, Line, Step, and Bar Forms

6.2.1.4 Context Menu

Most trend display activities are carried out via a context menu that is displayed when you right click on the trend display, Figure 6-6. This menu contains general Advant Workplace functions as well as functions that are specifically for Advant Trends. To learn more about general workplace functions, refer to the *Advant Workplace User's Guide*.

The following is a brief description of the menu items for Advant Trends:

- **Save Trend** lets you save any changes you made to the trend configuration. See Section 6.3.1.10, Saving Runtime Changes.
- **Revert** discards any changes made since the last save. See Section 6.3.1.11, Undoing Runtime Changes.
- **Insert Trace** displays the Add New Trace dialog. See Section 6.3.1.1, Adding a Trace.
- **Delete Trace** displays the Delete Trace dialog. See Section 6.3.1.2, Deleting a Trace
- **Properties** displays the Trend Display Properties dialog. See Section 6.3.1.3, Configuring Trend Display Properties.
- **View Trend** displays a cascade menu to let you show/hide components of the trend display:
  - **Table** alternately shows and hides the Table View.
  - **Tool Bar** alternately shows and hides the Tool Bar.

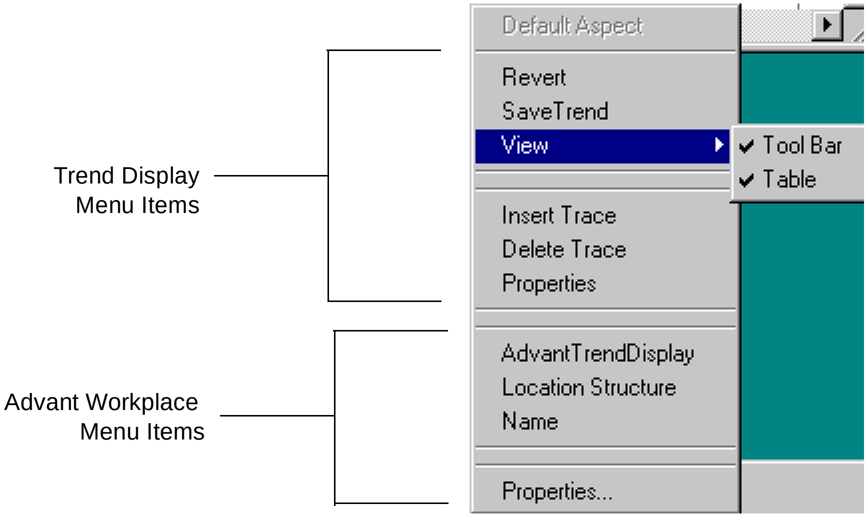


Figure 6-6. Context Menu for Advant Trends

6.2.1.5 Tool Bar

The tool bar contains buttons for frequently used functions, Figure 6-7. The toolbar can be re-positioned by selecting its handle dragging it to any location within the Trend Display. The tool bar may be docked on any edge on the application frame or may be left “floating” in any location within the frame. You can also close the tool bar to allow more screen space for the Graphical View. Once closed, you can re-open the tool bar via the context menu. The position of the tool bar is stored as part of the Trend Aspect.

When the toolbar is in “floating” mode you can adjust the size of the tool bar. This lets you display the tool bar with multiple rows or a single row.

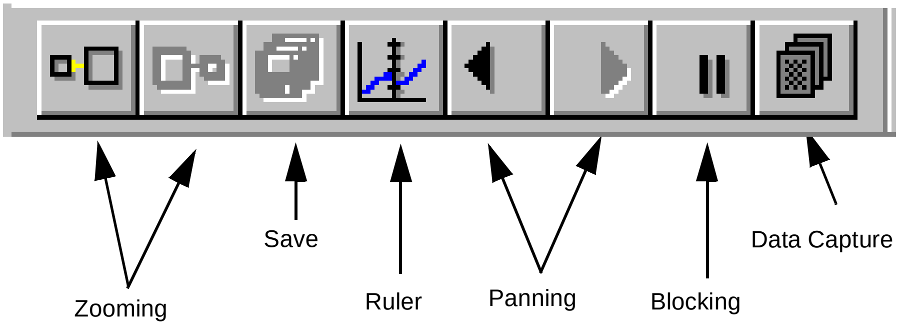


Figure 6-7. Tool Bar

For instructions on how to use these tools, see:

- Section 6.3.2.1, Blocking and Un-blocking
- Section 6.3.2.4, Panning
- Section 6.3.2.2, Zooming
- Section 6.3.2.3, Reading Trend Data with the Ruler
- Section 6.3.2.8, Copying and Pasting Trend Data to Other Applications
- Section 6.3.1.10, Saving Runtime Changes

6.3 Handling Trend Displays

6.3.1 Configuring the Trend Displays

Trend Displays for Process Objects

Process objects have a default trend display configuration that you can use without further configuration. To make adjustments to the default configuration, see:

- Section 6.3.1.1, Adding a Trace.
- Section 6.3.1.2, Deleting a Trace.
- Section 6.3.1.3, Configuring Trend Display Properties.
- Section 6.3.1.4, Showing/Hiding Traces
- Section 6.3.1.5, Changing Trace Colors
- Section 6.3.1.6, Changing the Data Source for a Trace
- Section 6.3.1.7, Adjusting High and Low Ranges
- Section 6.3.1.8, Changing a Trace Form
- Section 6.3.1.9, Expanding/Shrinking the Graphical View

Having made changes, you can either save the changes or revert back to the previous configuration. See:

- Section 6.3.1.10, Saving Runtime Changes
- Section 6.3.1.11, Undoing Runtime Changes

Trend Displays for Other Object Types

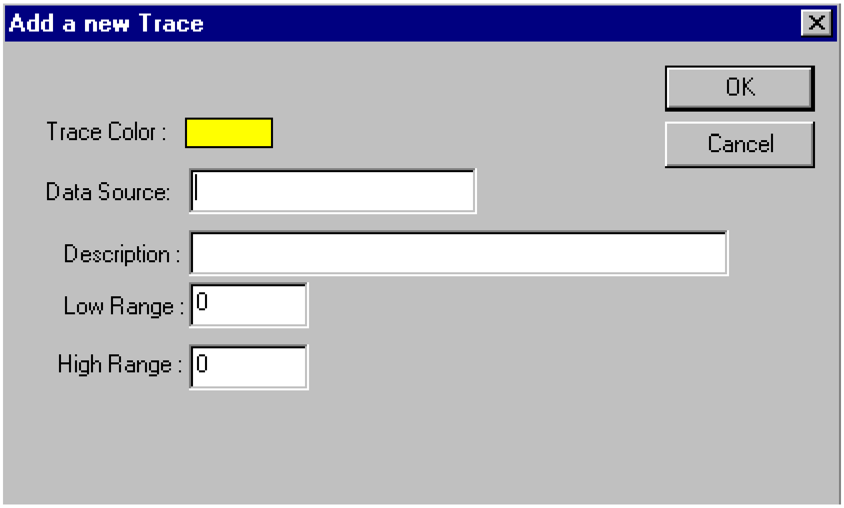
For other object types, the very first time you open the trend for an object, the display is empty. In this case, you must build the display by adding traces and configuring trend display properties. Building a trend display is a two-part process:

- First select the data source(s) whose trend data you want to display. See
  - Section 6.3.1.1, Adding a Trace.
  - Section 6.3.1.2, Deleting a Trace.

Then configure trend display properties such as time period, various display colors, and so on. See Section 6.3.1.3, Configuring Trend Display Properties.

6.3.1.1 Adding a Trace

To add a trace, choose **Insert Trace** from the context menu, and then use the Add New Trace dialog, Figure 6-8, to configure the following attributes: Trace Color, Data Source, Description, Low Range, High Range.



Trace Color :

Data Source:

Description :

Low Range : 0

High Range : 0

Figure 6-8. Add New Trace Dialog

Trace Color

Click this field to display the Color Selection dialog. Use this dialog to select a trace color as described in Section 6.3.1.12, Color Selection. If you want to change the color later, you can do so via the Color field in the Table View.

Data Source

This specifies the OPC tag that will be the data source for this trace. A number of pre-determined OPC servers are supported. Typically, data collection is via the Advant OPC server.
In this case the correct format for data source name is *object:attribute*. Use all uppercase letters when you enter the attribute name. For example: `TC100:VALUE`

The text string can be up to 65 characters maximum.
All characters allowed except: ! ? * % - $

The period character (.) is allowed, but it is strongly recommended that you do not use it unless absolutely necessary.

Description

This field is optional. You can use it to enter a description of the object of this trace.

Low Range

Specify the low range for the y-axis for this trace.

High Range

Specify the high range for the y-axis for this trace.

6.3.1.2 Deleting a Trace

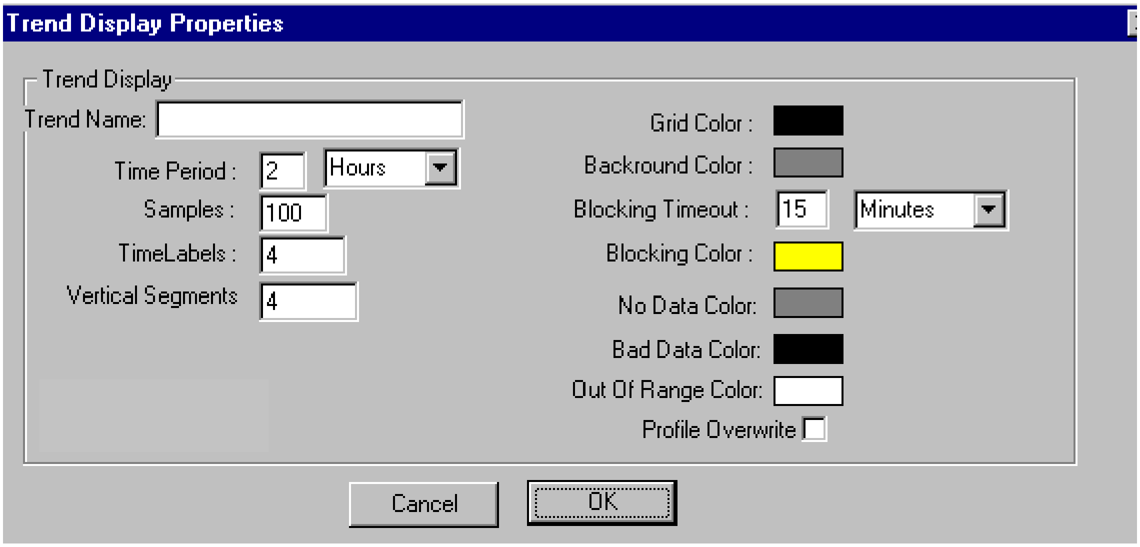
To delete a trace:

1. Select the corresponding row in the Table View.
2. Right click to display the context menu, and choose **Delete Trace**.

6.3.1.3 Configuring Trend Display Properties

Default trend display properties are defined by trend profiles that are configured for individual users. You can override these default settings, either directly via the Table View, or via the Trend Display Properties dialog, Figure 6-9.

To display this dialog, choose **Properties** from the context menu.



Trend Name:
Time Period : 2 Hours
Samples : 100
TimeLabels : 4
Vertical Segments 4
Grid Color : ⬛
Backround Color : ▨
Blocking Timeout : 15 Minutes
Blocking Color : 🟨
No Data Color: ▨
Bad Data Color: ⬛
Out Of Range Color: ☐
Profile Overwrite ☐

Figure 6-9. Trend Display Properties Dialog

The Trend Name field indicates the name of trend display whose properties you are editing. Configure one or more of the following trend properties for the specified trend display: Time Period, Samples, Time Labels, Vertical Segments, Grid Color, Background Color, Blocking Time Out, Blocking Color, No Data Color, Bad Data Color, and Out of Range Color.

These settings are not applied to the trend display unless you click the **Profile Overwrite** button. The settings are only applicable for the current instance of this display. If you close and re-open the display, the properties will revert back to their default settings.

Trend Name

This is the name of the trend display whose properties you want to edit.

Time Period

Time period defines the starting and ending time that data are retrieved for. Choose the time unit (Days, Hours, Minutes) using the pull-down menu, and then enter the quantity as an integer (1,2,3, and so on)

Samples

This is the number of data sample for the specified Time Period.

Time Labels

This is the number of time labels displayed at the bottom of the X axis.

Vertical Segments

This is the number of vertical segments displayed along the Y-axis.

Grid Color

This field shows the current color for the grid. You can change the grid color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

Background Color

This field shows the background color for the grid. You can change the background color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

Blocking Color

This field shows the color for the blocking indicator (Section 6.3.2.1, Blocking and Un-blocking). You can change the color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

Blocking Time Out

This field indicates the duration of the blocking timer that starts when you block the graphical view. When the timer expires, the graphical view will resume updating. You can also resume updating by toggling the blocking button before the timer expires.

Choose the time unit (Days, Hours, Minutes) using the pull-down menu, and then enter the quantity as an integer (1,2,3, and so on)

No Data Color

This field shows the color used to indicate no data. You can change the color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

Bad Data Color

This field shows the color used to indicate bad data. You can change the bad data color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

Out of Range Color

This field shows the color used to indicate out-of-range data. You can change the color by clicking on this field, and then selecting another color. See Section 6.3.1.12, Color Selection.

6.3.1.4 Showing/Hiding Traces

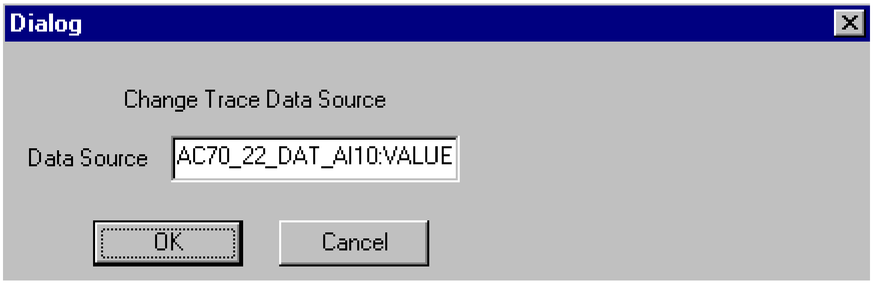
You can alternately show and hide a trace in the Graphical View by double-clicking the corresponding Row Number in the Table View.

6.3.1.5 Changing Trace Colors

The default color for a trace is initially set when you add a trace (Section 6.3.1.1, Adding a Trace). You can change the color for a trace by clicking the Color field in the Table View.

6.3.1.6 Changing the Data Source for a Trace

The data source for a trace is initially set when you add a trace (Section 6.3.1.1, Adding a Trace). You can change the data source for a trace by clicking the Name field in the Table View. This displays the Change Trace Data Source dialog, Figure 6-10. Enter the new Data Source, then click **OK**.



Data Source: AC70_22_DAT_AI10:VALUE

Figure 6-10. Change Trace Data Source Dialog

6.3.1.7 Adjusting High and Low Ranges

High and low ranges for the y-axis in the Graphical View are initially set when you add a trace (Section 6.3.1.1, Adding a Trace). You can change these ranges via the Low Range and High Range fields in the Table View.

6.3.1.8 Changing a Trace Form

The default form for a trace is a continuous line. You can also view traces in bar or step form. This is done via the Form field in the Table View.

6.3.1.9 Expanding/Shrinking the Graphical View

The split bar is a delimiter between the Graphical View and the Table View. Dragging the split bar lets you adjust the size of graphical view and table view to your preference. The split bar does not affect the location of the toolbar. This is true whether the toolbar is floating or docked. A scrollbar is displayed on an as-needed basis to let you access any rows in the table that are no longer visible after the resize. The table view will resize the trend display to avoid having to display a scrollbar.

6.3.1.10 Saving Runtime Changes

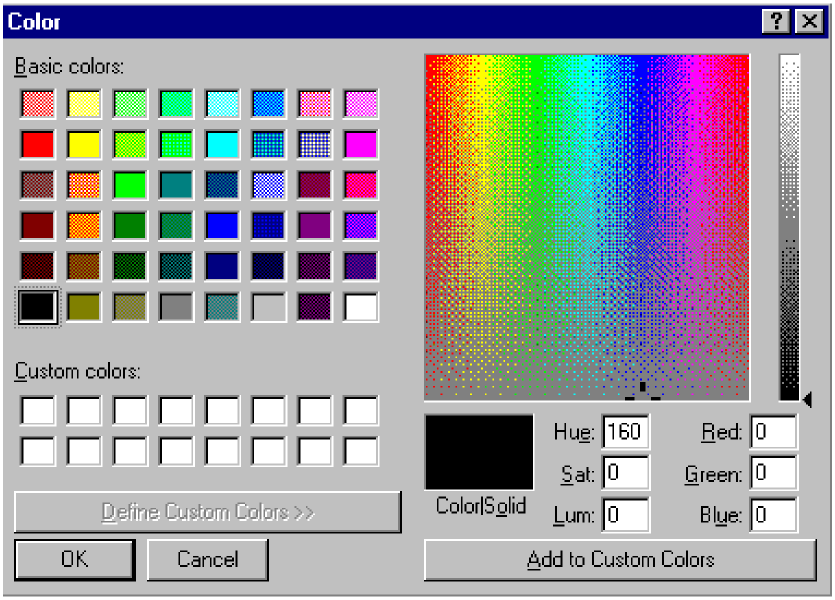
You can save runtime changes to the trend display either by clicking the **Save** button in the toolbar, or by choosing **Save Trend** from the context menu. See Figure 6-7.

6.3.1.11 Undoing Runtime Changes

You can restore the last saved values for all properties to undo any temporary changes by choosing **Revert** from the context menu.

6.3.1.12 Color Selection

Clicking on any field in the Trend Display Properties dialog having to do with color displays the Color Selection dialog, Figure 6-11. This dialog lets you select from a palette of basic colors. You can also develop a custom color palette.



Hue: 160
Sat: 0
Lum: 0
Red: 0
Green: 0
Blue: 0

Figure 6-11. Color Selection Dialog

6.3.2 Using and Working with Trend Data

The Trend Display lets you:

- pause the Graphical View. See Section 6.3.2.1, Blocking and Un-blocking.
- zoom in to see greater detail, and zoom out to see a wider time scope. See Section 6.3.2.2, Zooming.
- select a point on the graphical view, and then read the corresponding times and values for each trace. See Section 6.3.2.3, Reading Trend Data with the Ruler.
- pan the Graphical View left and right
- pan the Graphical View Area left and right. See Section 6.3.2.4, Panning.
- apply a filtering algorithm (moving average) to a trace to reduce many samples over a wide time scope to a single point. See Section 6.3.2.5, Filtering.
- apply a time offset for comparing different traces. See Section 6.3.2.6, Applying Time Offsets.
- monitor the status for each trace. See Section 6.3.2.7, Viewing Trend Status.

capture data from either the graphical or table view, and then paste the data in a third party application such as Microsoft Excel. See Section 6.3.2.8, Copying and Pasting Trend Data to Other Applications.

6.3.2.1 Blocking and Un-blocking

Blocking refers to freezing the graphical view in time by pausing updating. To block the graphical view, click in the blocking button in the Tool Bar. See Figure 6-7.

The following operator actions also cause the graphical view to be blocked:

- Panning in any direction.
- Zooming
- Read Trend Data with the Ruler out of the scope (crossing the edge the graphical view area starts to scroll in that direction).
- Applying Time Offsets.

A blocked graphical view is indicated by framing the graphical view in the specified Blocking Color, Figure 6-12. The graphical view will remain blocked for the specified Blocking Time Out period, or until you click the blocking button again.

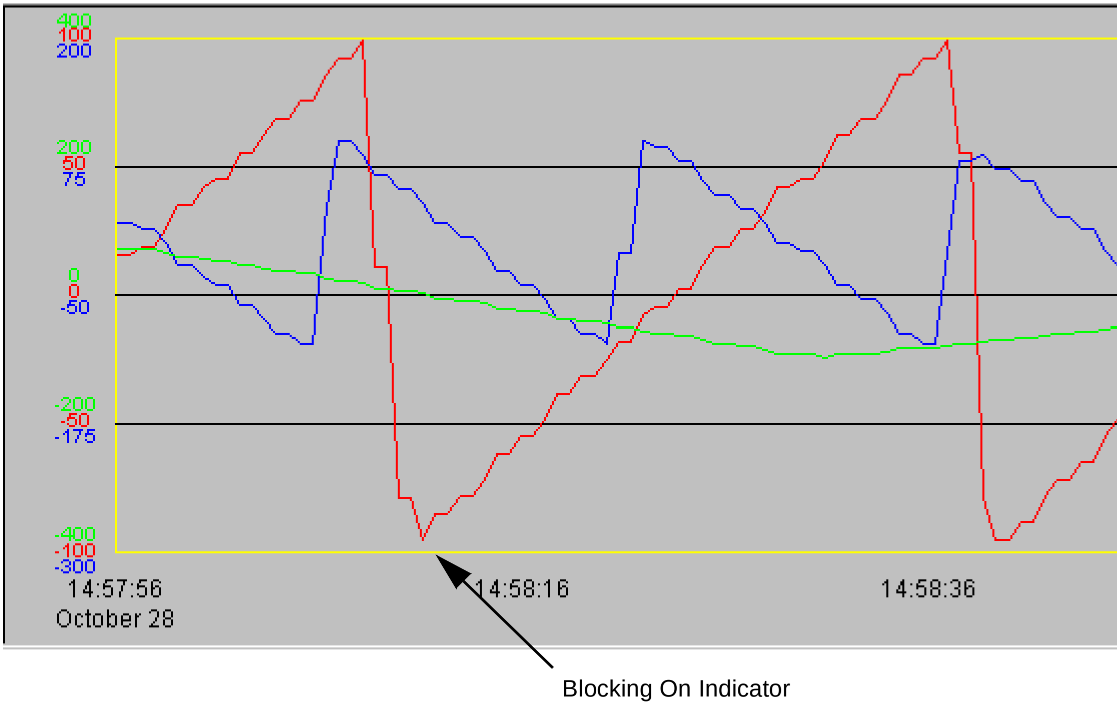


Figure 6-12. Blocked Graphical View

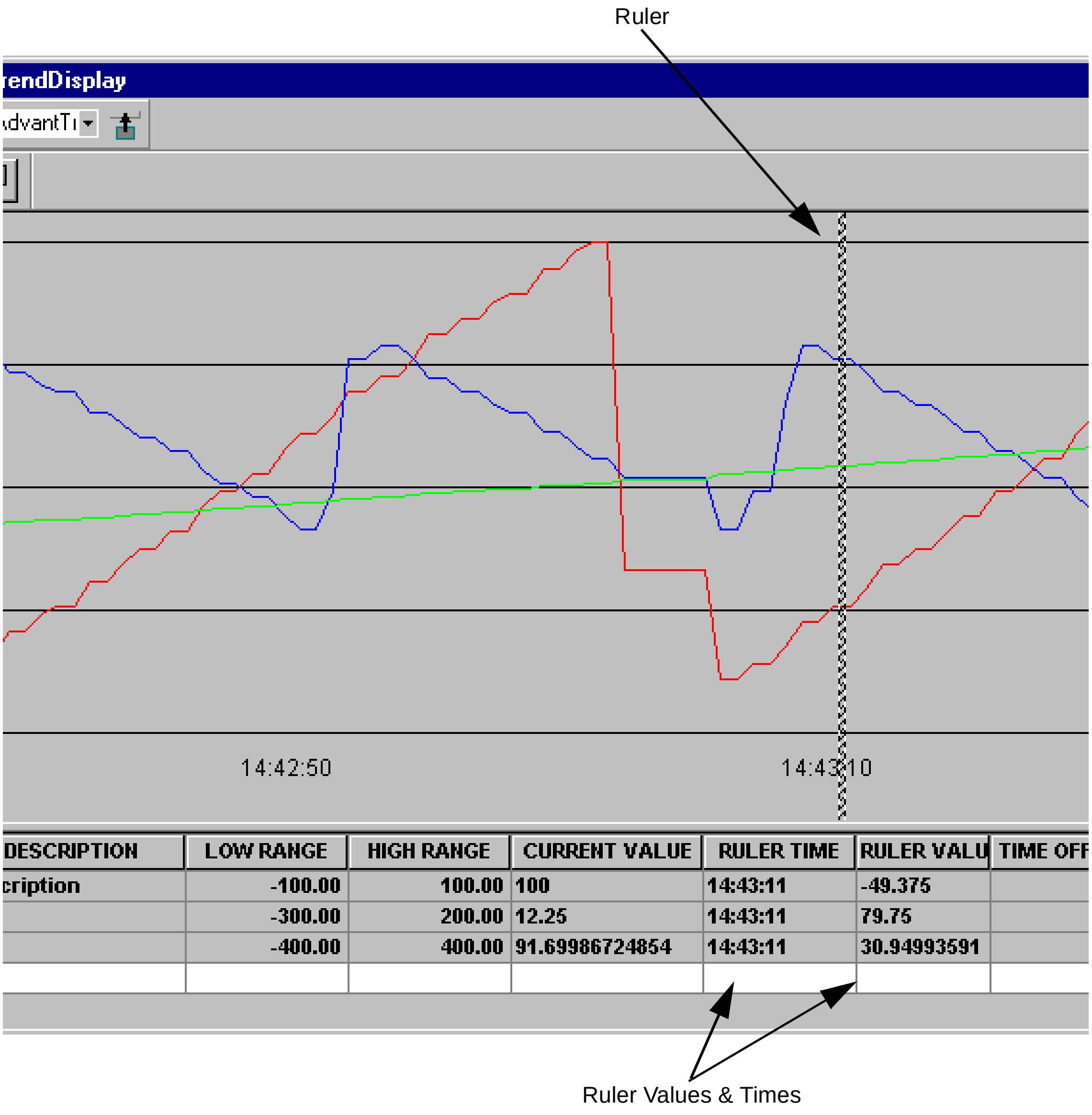
6.3.2.2 Zooming

These buttons let you zoom in or zoom out in fixed steps depending on what button is pressed. See Figure 6-7. You can specify an area for zooming via Data Capture tool. See Section 6.3.2.8, Copying and Pasting Trend Data to Other Applications.

6.3.2.3 Reading Trend Data with the Ruler

The ruler lets you select a point on the graphical view and then read the time and value for each trace at the selected point. To do this:

1. Block the graphical view. See Section 6.3.2.1, Blocking and Un-blocking.
2. Click the ruler button in the Tool Bar, Figure 6-7. This places the ruler on the graphical view.
3. Select the ruler with the left mouse button, and then drag left or right. You can also use the arrow keys on the keyboard or the Panning buttons in the Tool Bar.
4. Read the corresponding Ruler Time and Ruler Value in the Table View, Figure 6-13.



DESCRIPTION	LOW RANGE	HIGH RANGE	CURRENT VALUE	RULER TIME	RULER VALU	TIME OFF
cription	-100.00	100.00	100	14:43:11	-49.375	
	-300.00	200.00	12.25	14:43:11	79.75	
	-400.00	400.00	91.69986724854	14:43:11	30.94993591	

Figure 6-13. Ruler in Graphical View Area

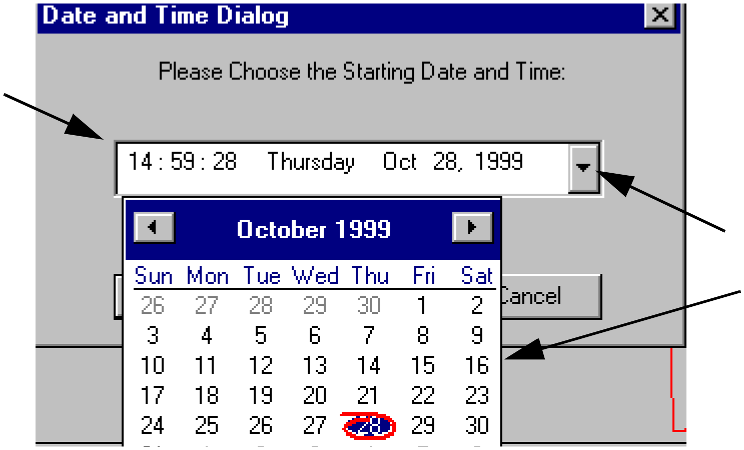
6.3.2.4 Panning

Use the Pan left/right buttons in the Tool Bar, see Figure 6-7, to pan the graphical view in the selected direction. Holding the button down continually scrolls the panning. The scrolling speed increases the longer you press the button.

As an alternative, you can navigate forward and backward in time by specifying the date and time. To do this, click on either the starting or ending time on the x-axis. This displays the date and time dialog, Figure 6-14. This dialog provides two methods for specifying a date and time:

- Click on the field you want to change (hours, minutes, seconds, day, month or year) and then use the keyboard up/down arrows to go forward and backward.
- Use the pull-down menu to display an interactive calender.

Click on a
Field and Use
Keyboard
Up/Down Arrows



Date and Time Dialog

Please Choose the Starting Date and Time:

14 : 59 : 28 Thursday Oct 28, 1999

October 1999

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Or click here
to Display
Calender

Figure 6-14. Navigating Backward and Forward in Time via Dialog

6.3.2.5 Filtering

The filter performs a calculation to represent a large time span of data as a single value. The filter reduces jitter from trends that oscillate.The type of filter and any parameters are entered via the Filter field in the Table View. For this release, the only filtering calculation allowed is moving average. This filter calculates the average of a specified number of samples, and displays that value as a single point on the graphical view.

Examples of filtering results are shown in Figure 6-15.

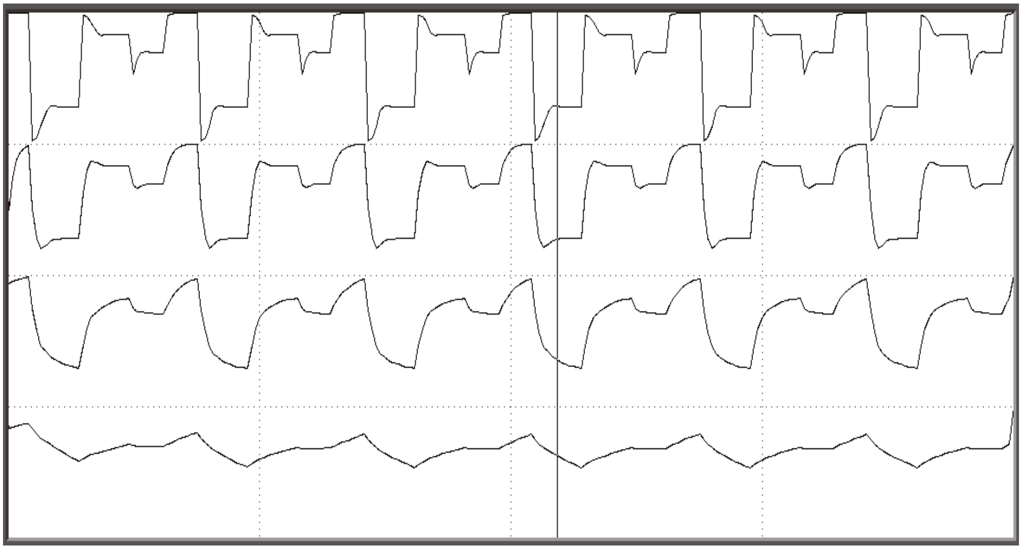


Figure 6-15. Example Filter Factors

6.3.2.6 Applying Time Offsets

You can apply a time offset to a trace to compare one location (time) to another location on the same trace. To do this, click the Time Offset field in the Table View, and then enter the offset time.

The offset value, specified in seconds, is added to the trace’s start timed. A positive value moves the trace to the right.

An example is shown in Figure 6-16. Two traces display the same data. To compare the value at 9:12:30 in the upper trace, with the value at 9:10:00 in the lower trace, set the Time Offset in the lower trace to 2:30.

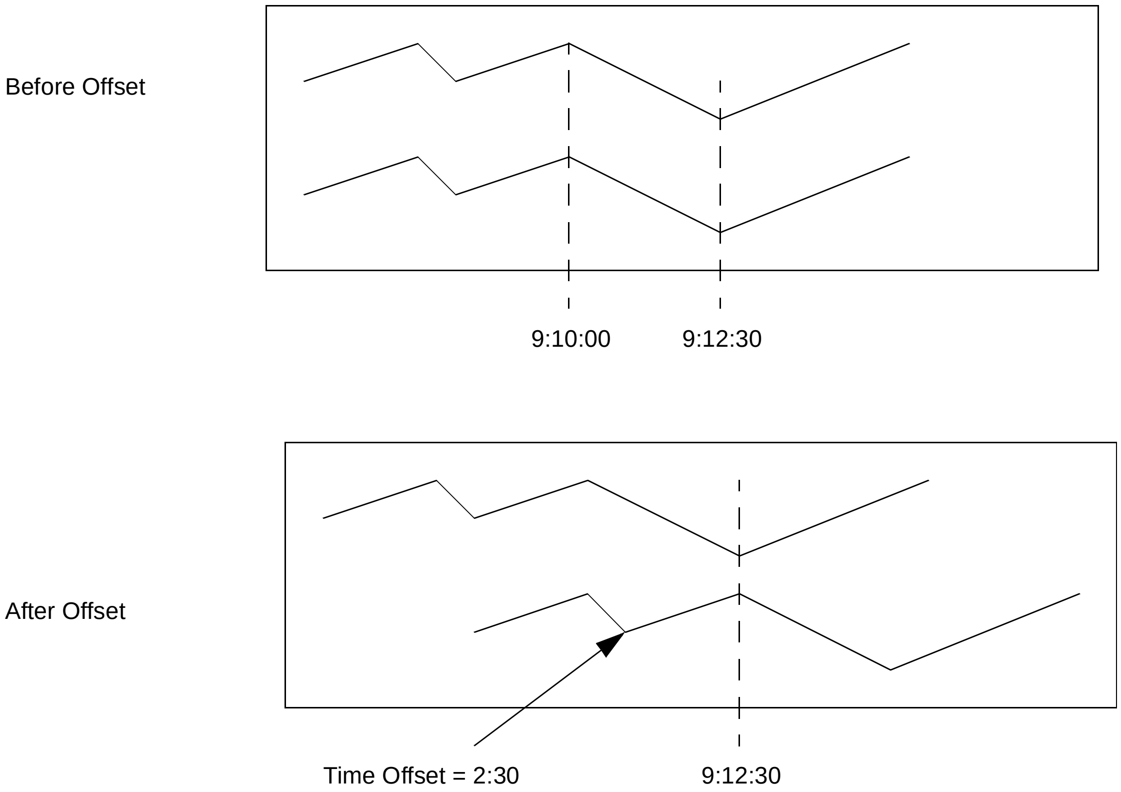


Figure 6-16. Example, Time Offset

Placing the Ruler at 9:12:30 will now place the value of 9:12:30 in the Ruler Value of the upper trace, and the value of 9:10:00 in the Ruler Value of the lower trace.

6.3.2.7 Viewing Trend Status

The Access/Error Indication field in the Table View provides feedback regarding data collection status for each trace.

6.3.2.8 Copying and Pasting Trend Data to Other Applications

The capture data function in the toolbar lets you copy data from the Graphical View and/or Table View, and then paste the copied data into a third party software application such as Microsoft Excel. You can also use this feature to select an area for zooming. To do this:

1. Highlight the data to be captured by holding down the left mouse button and dragging the crosshair over the area in the graphical or table view, Figure 6-17.

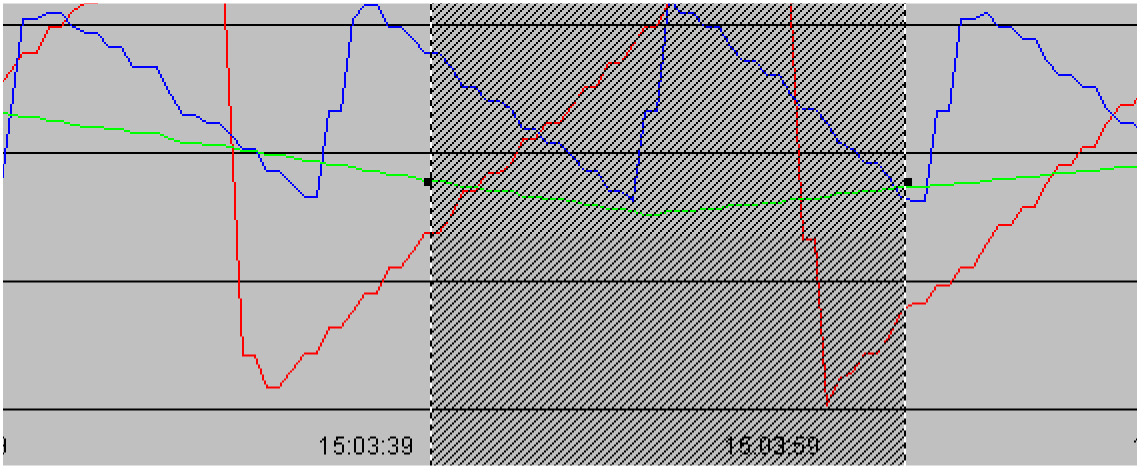
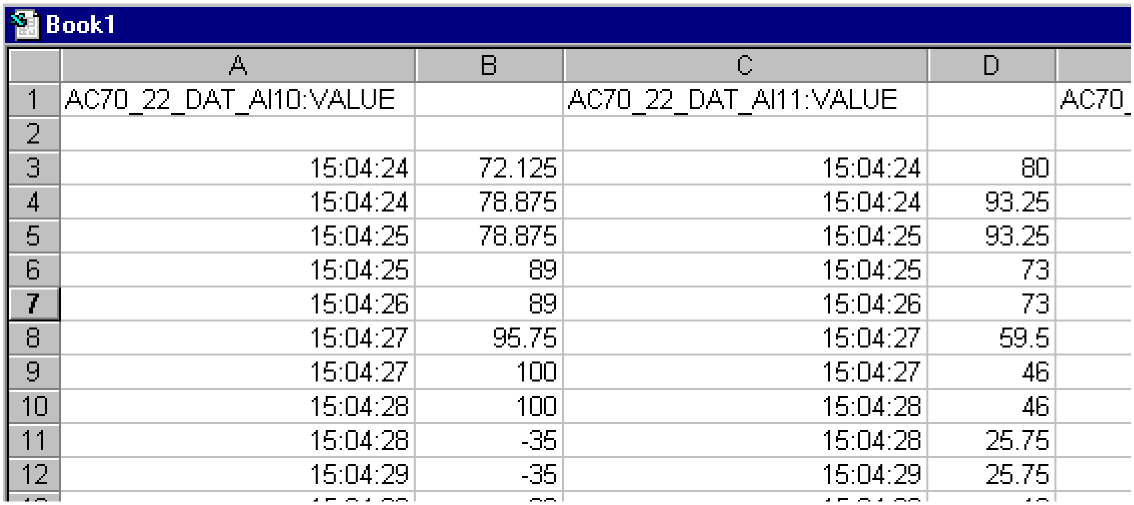


Figure 6-17. Selected Area for Data Capture

2. Release the mouse button. At this point you can either:
   - copy the data for the selected area to the Windows paste buffer by clicking the Capture Data button.
   - zoom in and out using the Zoom buttons (Section 6.3.2.2, Zooming).
   - cancel the selection by pressing the ESC key.

3. Click the Capture Data button in the toolbar. See Figure 6-7.
4. If you want to paste the selected data to an external application (for instance, Microsoft Excel), go to the external application and use the Paste function to copy the contents of the Windows paste buffer. An example of captured data being pasted into Microsoft Excel is shown in Figure 6-18.



	A	B	C	D	
1	AC70_22_DAT_AI10:VALUE		AC70_22_DAT_AI11:VALUE		AC70_
2					
3	15:04:24	72.125	15:04:24	80	
4	15:04:24	78.875	15:04:24	93.25	
5	15:04:25	78.875	15:04:25	93.25	
6	15:04:25	89	15:04:25	73	
7	15:04:26	89	15:04:26	73	
8	15:04:27	95.75	15:04:27	59.5	
9	15:04:27	100	15:04:27	46	
10	15:04:28	100	15:04:28	46	
11	15:04:28	-35	15:04:28	25.75	
12	15:04:29	-35	15:04:29	25.75	

Figure 6-18. Example, Pasting Captured Trend Data in Microsoft Excel

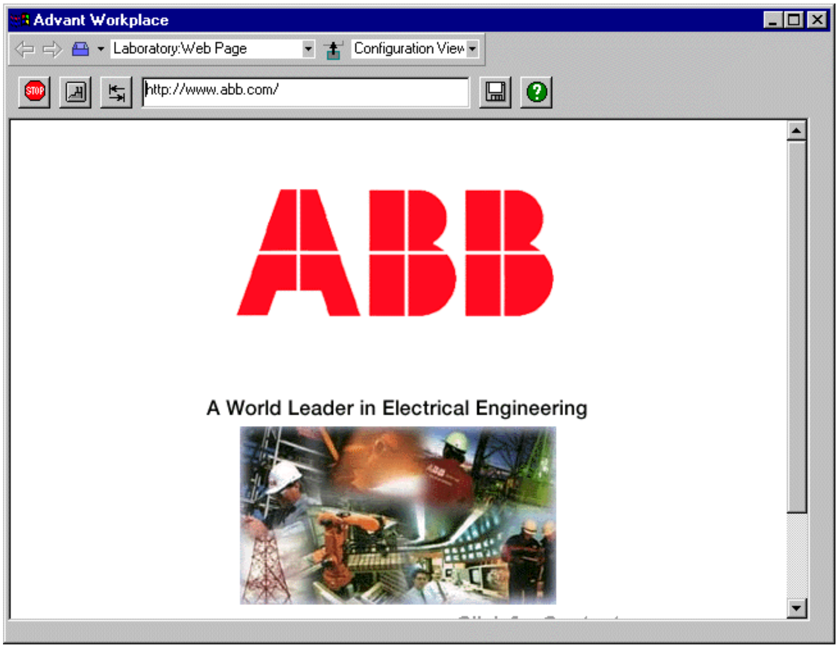
Chapter 7 How to Access the Web

The Web aspect provides you with access to any Web page or html document. It utilizes the Web Browser ActiveX component from Microsoft. You configure the Web aspect towards a Web page/html document, which in its turn may contain URL´s pointing further out in the Web. When you click on such a URL, the referenced Web page will be displayed. This is the ordinary way of web browsing and the only thing you need to do is to configure the Web aspect.

ABB does not recommend that you configure links outside your own Intranet without commitments from your IT manager/responsible.

7.1 Accessing the Web

You may open the Advant System to the world wide web in an easy way by using the built in Web Aspect. It offers a simple but powerful way for you to connect a web page as an aspect to an Advant Object.The Web Aspect presents a start page (configured for the aspect). You can use the URL links in the Web page to navigate to other web pages by clicking on them (see Figure 7-1)



http://www.abb.com/

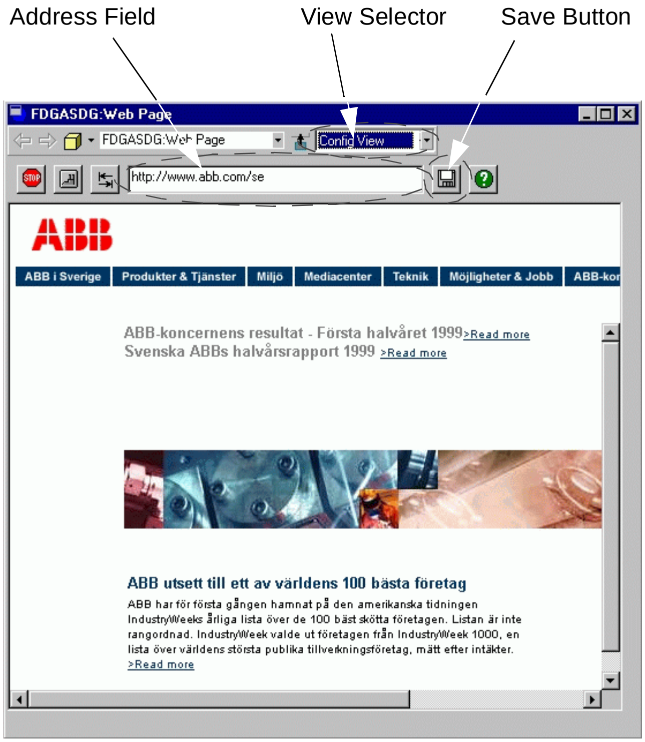
Figure 7-1. Example of a Web Aspect presentation

7.2 Creating a Web Aspect

Creating a Web Aspect

An example how to create a Web Aspect. Follow the steps below:

1. Add a Web aspect to the ABB Object
2. Open the Config View of the Web aspect.
   See Figure 7-2.



FDGASDG:Web Page

FDGASDG:Web Page

Config View

http://www.abb.com/se

ABB-koncernens resultat - Första halvåret 1999 >Read more
Svenska ABBs halvårsrapport 1999 >Read more

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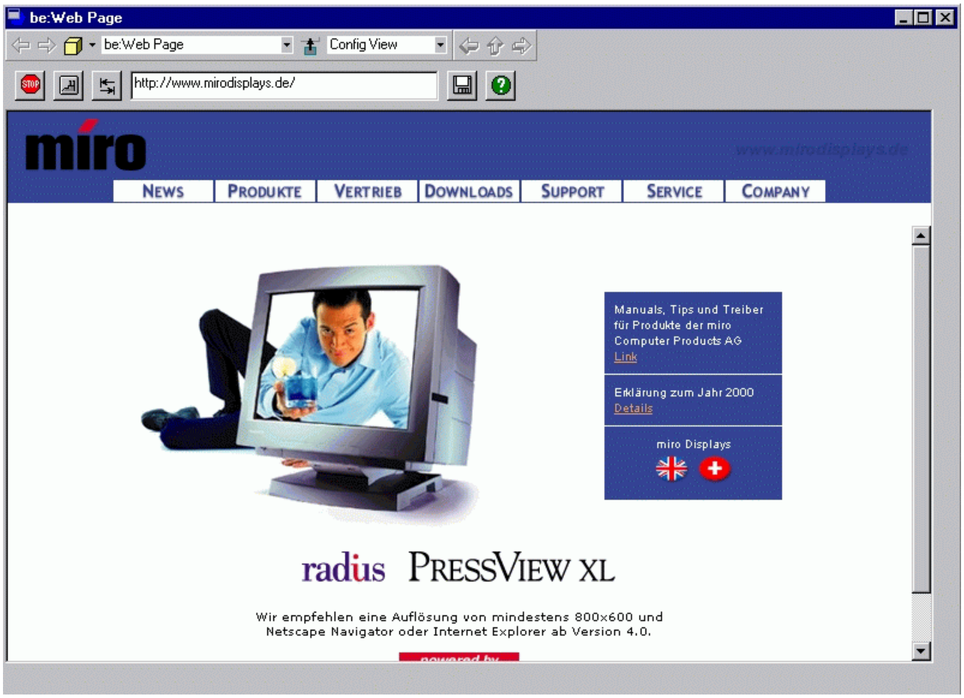
ABB har för första gången hamnat på den amerikanska tidningen IndustryWeeks årliga lista över de 100 bäst skötta företagen. Listan är inte rangordnad. IndustryWeek valde ut företagen från IndustryWeek 1000, en lista över världens största publika tillverkningsföretag, mätt efter intäkter.
>Read more

Figure 7-2. Web Aspect Dialog Box in Config View

3. Type the web address in the WWW address field.
4. Click on the SAVE button.

When you open the Web aspect, it connects to the Web.



http://www.mirodisplays.de/

Manuals, Tips und Treiber für Produkte der miro Computer Products AG
Link

Erklärung zum Jahr 2000
Details

miro Displays

Wir empfehlen eine Auflösung von mindestens 800x600 und Netscape Navigator oder Internet Explorer ab Version 4.0.

Figure 7-3. Main View of a Web Page Aspect

If you want to connect the Web aspect to another Web, you have to reconfigure it.

Figure 7-3 shows the Web aspect configured for connection to the web of the Radius Corporation in Germany.

If you click on the Explorer line in the Web aspect context menu, the Internet Explorer opens.

Chapter 8 How to Access Third-party Tools

8.1 Using the ActiveX Wrapper Aspect

The ActiveX Wrapper aspect provides you with a method to wrap any Active X Control. As a result you can use Active X components from various suppliers but you can also use some of the Active X Controls that are available as part of Windows NT such as the calendar. When you have configured the Active X Control you simply select that aspect to present it.

You execute the ActiveX Wrapper aspect as any other aspect. Use for example the context menu or double click on it.

8.1.1 Creating an ActiveX Wrapper Aspect

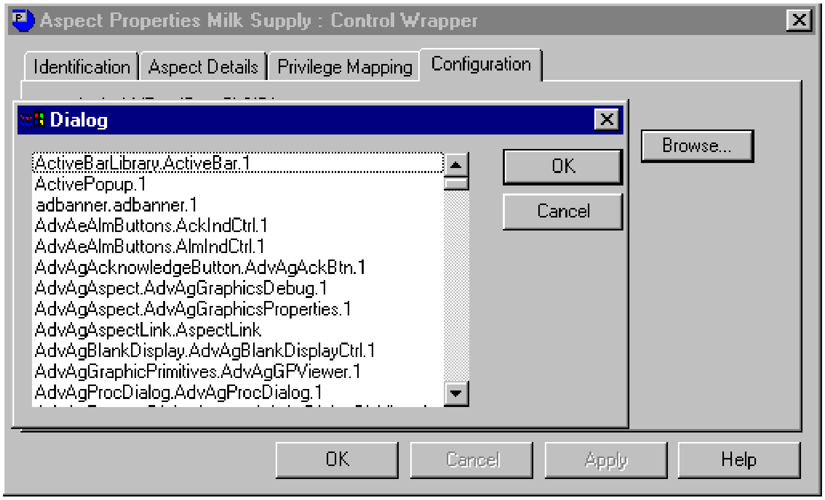
The ActiveX Wrapper aspect provides you with a method to wrap any Active X Control. As a result you can use Active X components from various suppliers but you can also use some of the Active X Controls that are available as part of Windows NT such as the calendar. When you have configured the Active X Control you simply select that aspect to execute it.

Creating an ActiveX Wrapper Aspect

An example how to create an ActiveX Wrapper aspect. Follow the steps below:

1. Add an ActiveX Wrapper aspect to the ABB Object
2. Open the Config View of the aspect

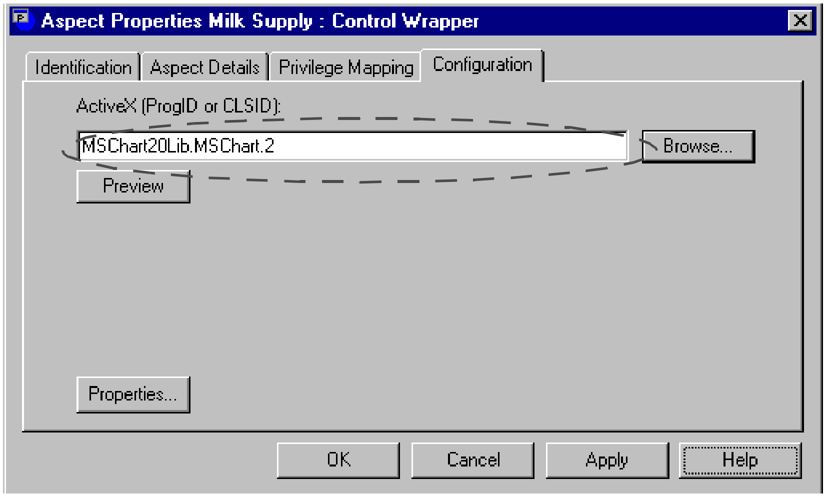
3. Type in the path to the ActiveX Control, in the input field or use the Browser. See Figure 8-1.



ActiveBarLibrary.ActiveBar.1
ActivePopup.1
adbanner.adbanner.1
AdvAeAlmButtons.AckIndCtrl.1
AdvAeAlmButtons.AlmIndCtrl.1
AdvAgAcknowledgeButton.AdvAgAckBtn.1
AdvAgAspect.AdvAgGraphicsDebug.1
AdvAgAspect.AdvAgGraphicsProperties.1
AdvAgAspectLink.AspectLink
AdvAgBlankDisplay.AdvAgBlankDisplayCtrl.1
AdvAgGraphicPrimitives.AdvAgGPViewer.1
AdvAgProcDialog.AdvAgProcDialog.1

Figure 8-1. ActiveX Wrapper Browser Function

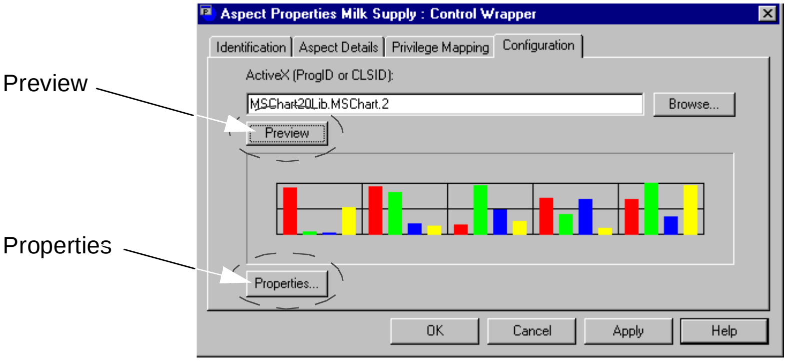
4. Click on the OK button. Click on the Preview button, see Figure 8-2, to verify that you have selected the right ActiveX.



ActiveX (ProgID or CLSID):
MSChart20Lib.MSChart.2

Figure 8-2. ActiveX Wrapper Aspect Dialog Box

5. You will see a preview of the chart in the dialog box as shown in Figure 8-3.



ActiveX (ProgID or CLSID):
MSChart20Lib.MSChart.2

Figure 8-3. ActiveX Wrapper Aspect Dialog Box with Preview of Chart

6. Click on Apply to save you configuration.
7. Click on the OK button.

   Figure 8-4 shows the aspect view after configuration.

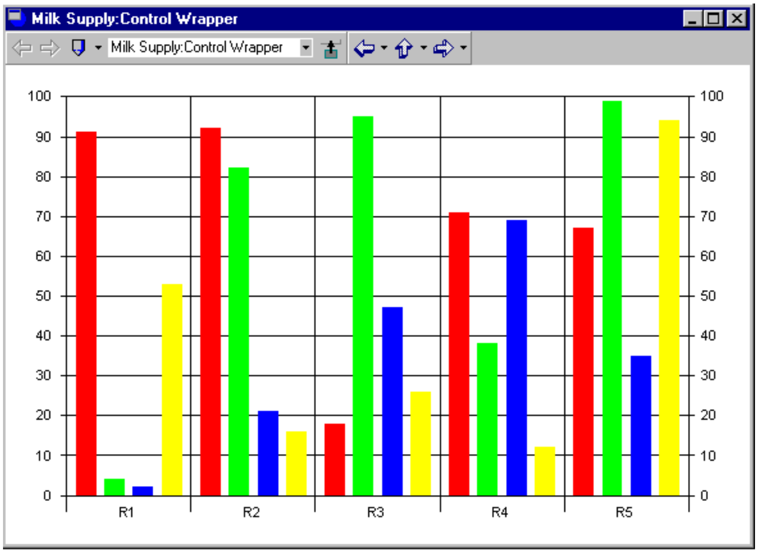


Figure 8-4. ActiveX Control Chart

8. To set the parameters like Chart type, Axis, Axis Grid and so on, click on the Properties button.

The Chart Dialog Box, according to Figure 8-5 opens.

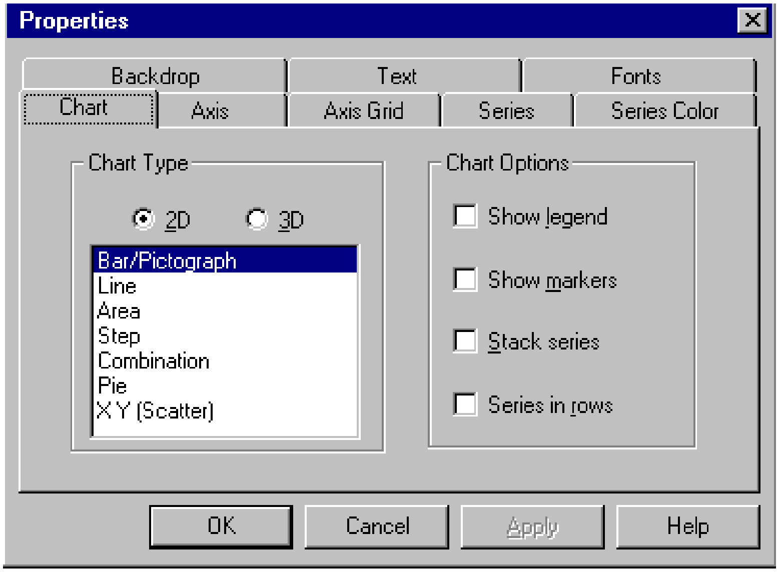


Chart Type

● 2D ○ 3D

Bar/Pictograph
Line
Area
Step
Combination
Pie
X Y (Scatter)

Chart Options

☐ Show legend
☐ Show markers
☐ Stack series
☐ Series in rows

Figure 8-5. Chart Dialog Box

You may now set the parameters for the Chart to your preferences. Figure 8-6 shows an example.

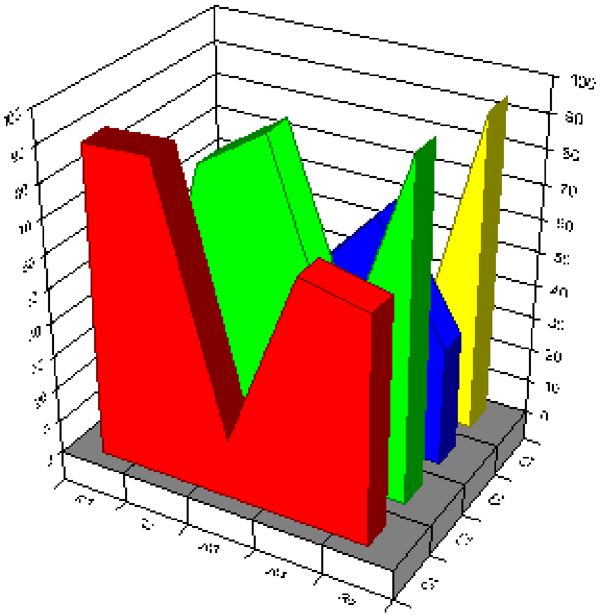


Figure 8-6. Example of a Chart

8.2 Using the Windows Application Aspect

The Windows Application aspect makes it possible for you to execute any executable installed on your Windows NT system. There are a number of useful Windows NT applications, Office applications, administrative tools in your plant etc. that may be useful to access as an aspect, from the same user interface as everything else.

You execute the Windows Application aspect as any other aspect. Use for example the context menu or double click on it.

8.2.1 Adding a Windows Application Aspect

The Windows Application aspect makes it possible for you to launch any executable installed on your Windows NT system. There are a number of useful Windows NT applications, Office applications, administrative tools in your plant etc. that may be useful to access as an aspect, from the same user interface as everything else.

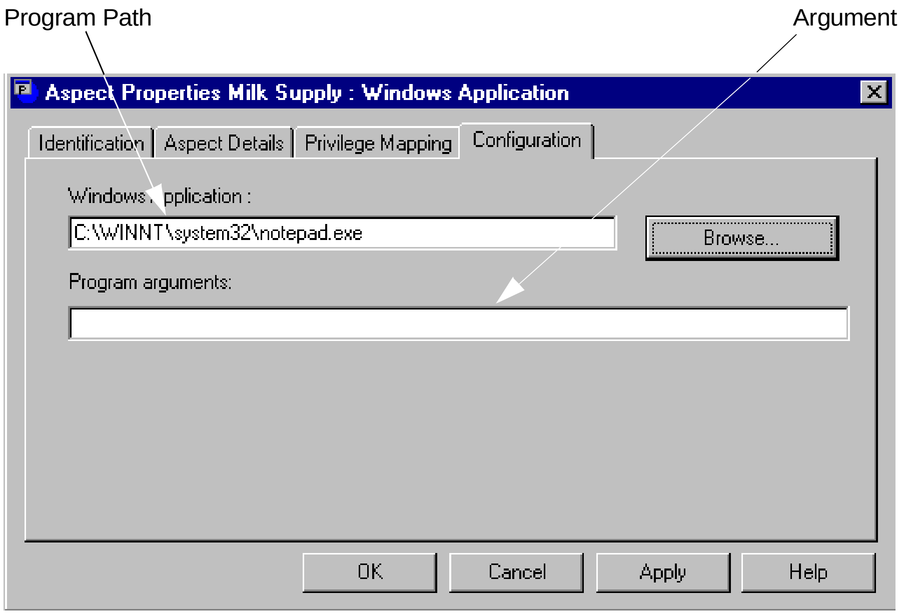
In a multi-client system, make sure you point out the executable as well as the argument files in such a way that it can be found from each one of your Advant Workplaces.

Creating a Windows Application Aspect

An example how to create a Windows Application Aspect. Follow the steps below:

1. Add a Windows Application aspect to the ABB Object
2. Open the Windows Application aspect in Config View.

3. Click on the right tab in the dialog box. See Figure 8-7.

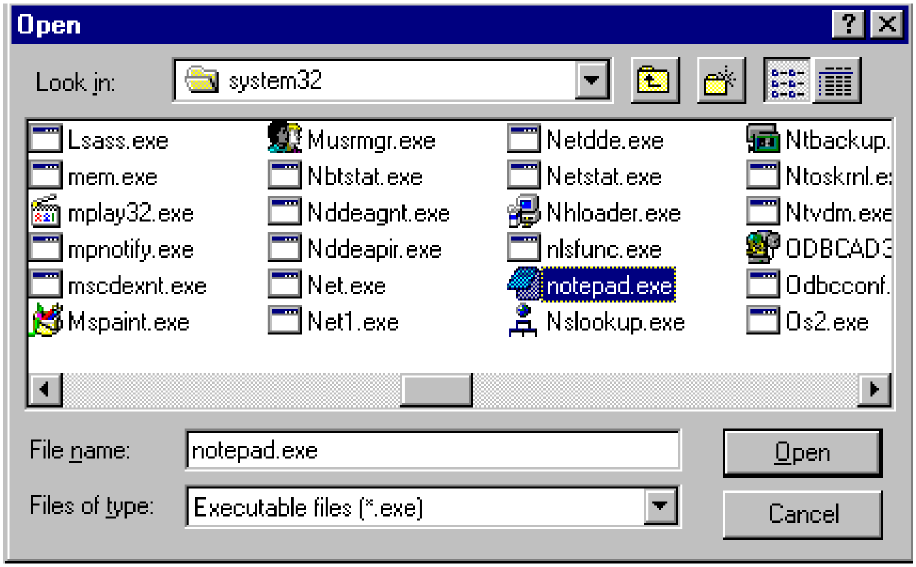


Windows Application : C:\WINNT\system32\notepad.exe

Program arguments:

Figure 8-7. Windows Application Aspect Context Menu

4. Type in the path to the program or browse to the destination.



File name: notepad.exe

Files of type: Executable files (*.exe)

Figure 8-8. Windows Application Aspect

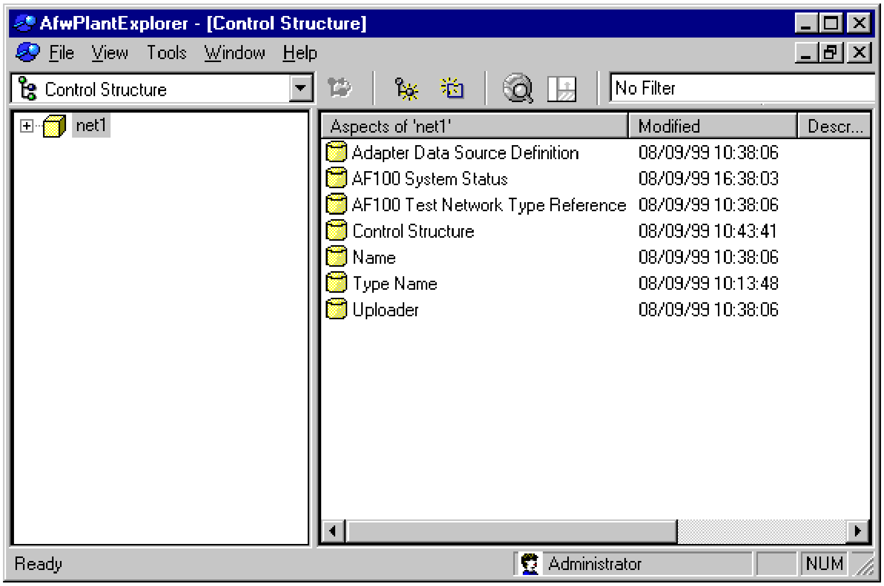
5. If the application need arguments, type in these in the Argument field.

Chapter 9 How to Use the System Status

The System Status Aspect can display information from several Advant servers. The aspect accesses the HTML files created by the System Status server through file sharing, allowing status from different servers to be displayed by the same Advant Plant Explorer.

9.1 Accessing the System Status

The default System Status Aspects for the AF100 network status are placed in the Control structure. The creation of default System Status Aspects is automatic, but System Status aspects can also be created manually.


AfwPlantExplorer - [Control Structure]
File View Tools Window Help
Control Structure
No Filter
net1
Ready
Administrator
NUM

Aspects of 'net1'	Modified	Descr...
Adapter Data Source Definition	08/09/99 10:38:06	
AF100 System Status	08/09/99 16:38:03	
AF100 Test Network Type Reference	08/09/99 10:38:06	
Control Structure	08/09/99 10:43:41	
Name	08/09/99 10:38:06	
Type Name	08/09/99 10:13:48	
Uploader	08/09/99 10:38:06	

Figure 9-1. AF100 System Status aspect in the Control structure

The AF100 network status aspect is placed in the Control structure with the path: `Structure Root/Control Network/AF100 Network/Station name/System Status`.

The creation of the default aspect is connected to the creation of AF100 Network. First you create an AF100 Network object, configure it to work with AF100 OPC Server. Then the system has to be restarted to create the System Status aspect. When the system is restarted, the server will recognize an AF100 OPC provider and the System Status aspect is created under the AF100 Network object.

9.2 Understanding the System Status

9.2.1 Viewing Network Status

The AF100 network protocol is supported by the System Status. An AF100 card and the AF100 driver software must be installed. The System Status server automatically detects if AF100 is available and loads network information from the card.

Each installed AF100 card is represented as a bus in the System Status Client display. Each AF100 bus is displayed as a header with the bus number and the local station number. Each bus can contain information up to 80 AF100 stations.

The status of the station is indicated by a colored box:

- Green filled box
  The station is working.
- Yellow filled box
  The station has a non fatal error.
- Red crossed box
  The station has a fatal error.

9.2.2 Status of the Adaptor Station

The first row in the station display describes the Adaptor Station, which is the station where the AF100 interface and OPC handler are installed.

The information is obtained by pressing the “+” sign before the station number. This expands the display and shows the following information:

- Bus Master
  Yes indicates that the station is bus master.
- Signal Configuration
  Yes indicates that the station is in signal configuration mode.
- Redundant Line Support
  Yes indicates that redundant AF100 communication lines are supported.
- Line 1 Active
  Yes indicates that the first redundant line is active.
- Line 2 Active
  Yes indicates that the second redundant line is active.
- Reconfiguration
  Yes indicates that the station is in reconfiguration mode.
- Board State
  The state of the AF100 device can have the following values:
  - Not Ready
  - Ready
  - Operational
  - Error
  - Init
  - Master
  - Standby
  - Osp
  - Undefined

- Time Synchronization
  The time synchronization of the local station can have the following values:
  - Master
  - Backup
  - Slave
  - None
- Dynamic Data Transfer Active
  Yes indicates that dynamic data transfer is activated.
- Device Id
  The identity of the AF100 device.

9.2.3 Status of Other Stations

The rows following the Adaptor Station contains information about other AF100 stations on the bus. Each bus can contain up to 80 stations. On each row the status and the station number is displayed.

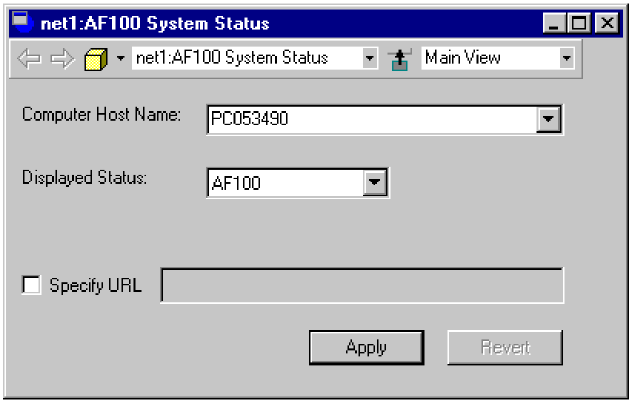
The description of each station contains the following information:

- Identity
  The identity of the station.
- Version
  The software version in the station.
- Active
  The application is executing normally in the controller (deblocked).
- SE Error
  The CPU prevents the application from execution.
- HW Error
  A minor CPU hardware error which does not prevent the application from execution.
- SW Error
  A software error which prevents the execution of parts of the application.
- PH Error
  An I/O-device or system error.

- PR Error
  An I/O process error.
- CRA Error
  Equal to the `RedundantLineSupervision` flag.
- RC1 Error
  Equal to the `RedundantLineFailed` flag.
- RC2 Error
  Equal to the `Line1Active` flag.

9.2.4 Configuring System Status

You can use Advant Plant Explorer to create new System Status aspects. When an aspect has been created it must be configured. See Figure 9-2.



Computer Host Name: PC053490

Displayed Status: AF100

☐ Specify URL

Figure 9-2. Configuration of an AF100 System Status aspect

In the **Computer Host Name** field, select or enter the name of the host computer where the System Status service resides.The default value is the computer where the aspect has been created, but it is possible to select from the names of all Windows NT computers in the domain.

Select the type of displayed System Status information from the **Displayed Status** drop-down menu. It is only possible to select "AF100" status.

You can also enter an ordinary URL to decide where the aspect will fetch the displayed information. This option can be used to display any HTML page, but it can also be used to display System Status from a distant OCS site.

When you click the **Apply** button, the configured status display becomes the default view.

It is possible to alter the configuration by selecting the Configure view in Advant Plant Explorer.

9.2.5 Automatic Updating

When the state of the network or supervised processes change, the System Status Server creates HTML files describing the new state.

The automatic updating is handled by the command bar in the bottom right corner of the display.

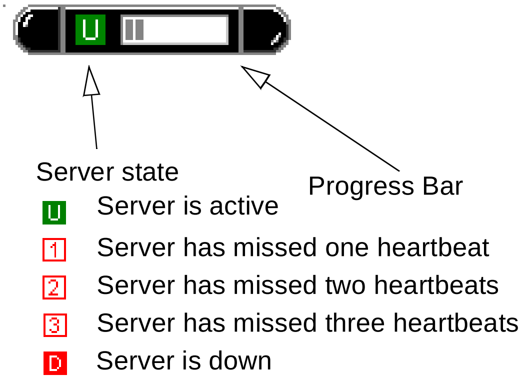

U
Server state
Progress Bar
U Server is active
1 Server has missed one heartbeat
2 Server has missed two heartbeats
3 Server has missed three heartbeats
D Server is down

Figure 9-3. Command Bar

The ActiveX control has two main tasks:

1. To determine if the display information has changed, and refresh the display every 5 seconds if the information has changed.
2. To determine if the System Status Server is active. The control detects "heartbeats" from the server. If the server does not send a "heartbeat" every 10 seconds, the control starts to change the server state icons. The states are shown

in Figure 9-3. If the client has failed to receive four "heartbeats", the server is considered to be down. This is indicated by changing the background color of the display to grey, and the text color to dark grey, to indicate that the displayed data is unreliable.

You can change these settings, see Section 9.2.6, Update Time.

9.2.6 Update Time

The System Status Server checks for changes in the network every 10 seconds. To minimize CPU usage, the HTML pages are only built when data changes. The System Status Client uses an ActiveX component to test if the HTML pages have changed. This test is made every 5 seconds. Only when a page has been changed, it is reloaded.

Chapter 10 How get Info from System Messages

System Messages are used to get system information from the AdvaSoft 2.0 for Windows NT system.

10.1 Accessing the System Message

You access the System Message by double click on a System Message aspect in the Advant Plant Explorer or by, for example, using a dedicated shortcut created by your system configurator.

An overlapping window is opened, where the System Messages are displayed in the same way that Alarm and Trend messages are displayed. See Figure 10-2.

10.2 Creating a System Message Aspect

Creating a System Message Aspect

An example how to create a System Message aspect. Follow the steps below:

1. Add an “Alarm and Event List” aspect to an ABB Object
2. Rename the aspect with a mnemotechnical name, for example “System Messages”.
3. Open the aspect and choose Cofig view.
4. In the Configuration Name field, choose “Default System Message List”. See Figure 10-1.

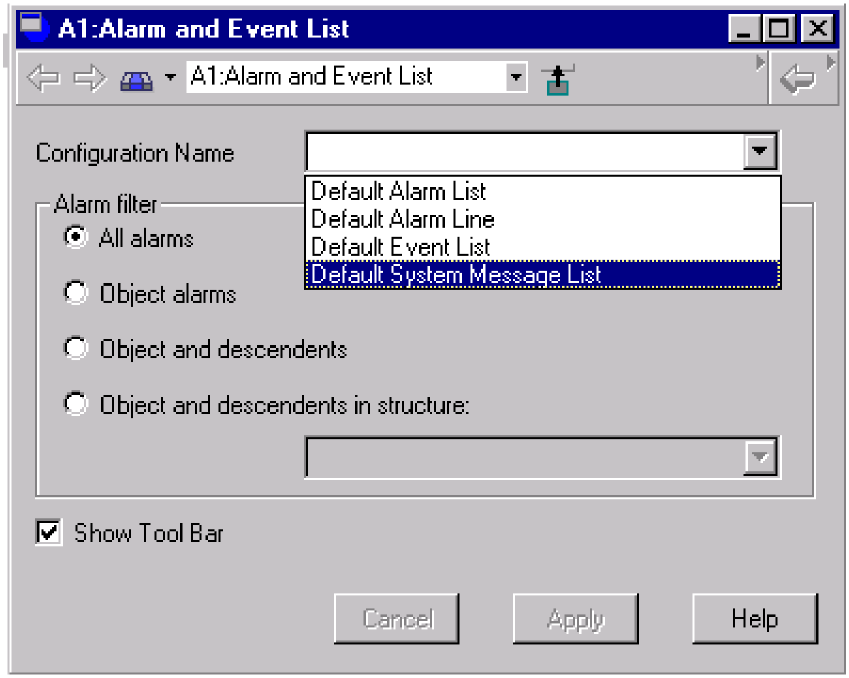
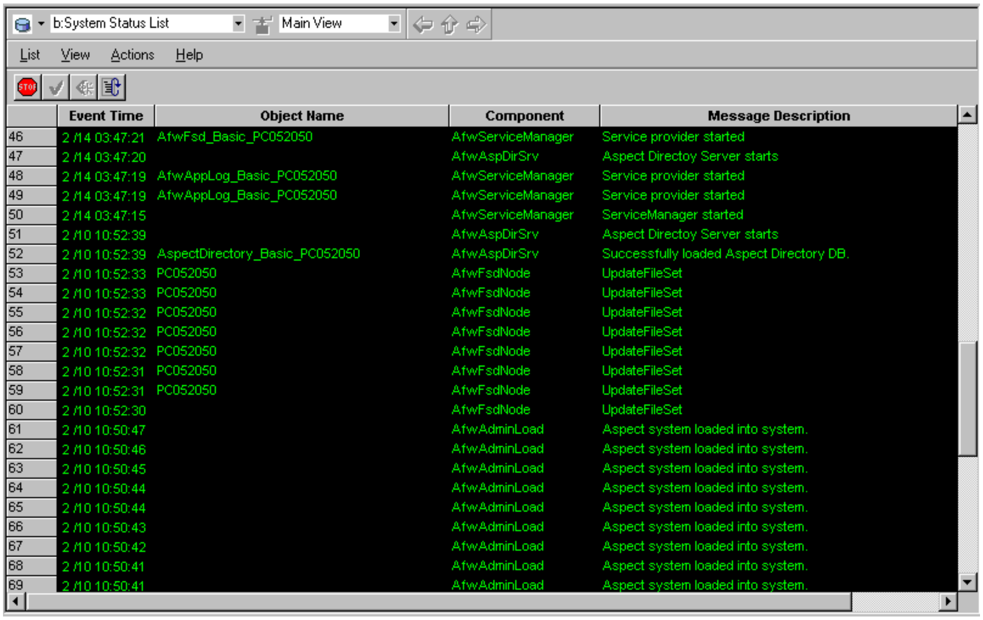


Figure 10-1. Default Alarm and Event List

5. Close the window.
6. Double click on the aspect or select and click with the right mouse button. The "System Message List" opens. See Figure 10-2.

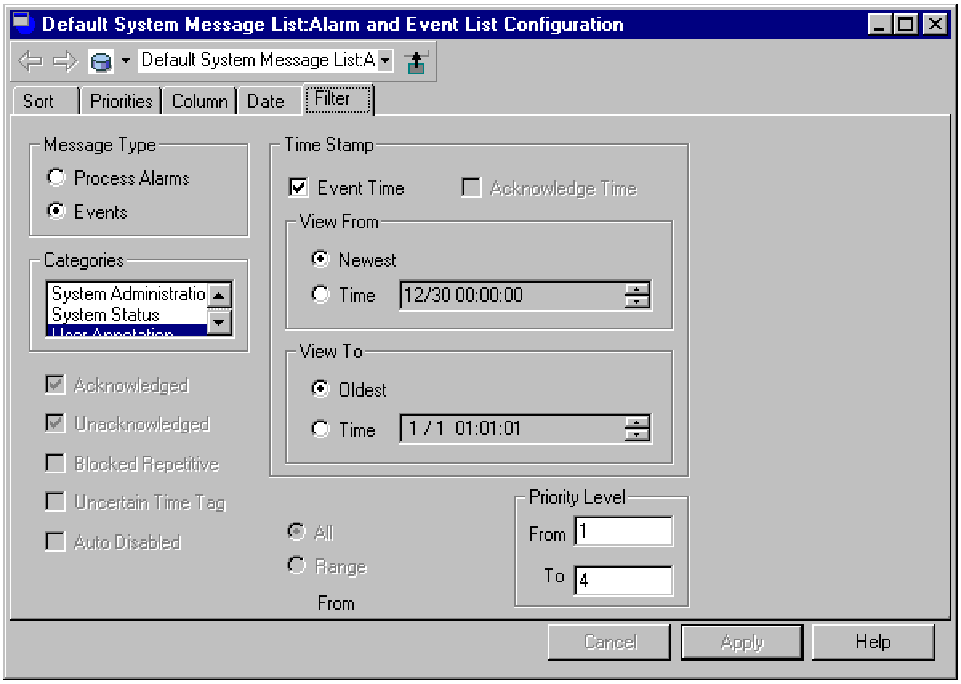


	Event Time	Object Name	Component	Message Description
46	2 /14 03:47:21	AfwFsd_Basic_PC052050	AfwServiceManager	Service provider started
47	2 /14 03:47:20		AfwAspDirSrv	Aspect Directoy Server starts
48	2 /14 03:47:19	AfwAppLog_Basic_PC052050	AfwServiceManager	Service provider started
49	2 /14 03:47:19	AfwAppLog_Basic_PC052050	AfwServiceManager	Service provider started
50	2 /14 03:47:15		AfwServiceManager	ServiceManager started
51	2 /10 10:52:39		AfwAspDirSrv	Aspect Directoy Server starts
52	2 /10 10:52:39	AspectDirectory_Basic_PC052050	AfwAspDirSrv	Successfully loaded Aspect Directory DB.
53	2 /10 10:52:33	PC052050	AfwFsdNode	UpdateFileSet
54	2 /10 10:52:33	PC052050	AfwFsdNode	UpdateFileSet
55	2 /10 10:52:32	PC052050	AfwFsdNode	UpdateFileSet
56	2 /10 10:52:32	PC052050	AfwFsdNode	UpdateFileSet
57	2 /10 10:52:32	PC052050	AfwFsdNode	UpdateFileSet
58	2 /10 10:52:31	PC052050	AfwFsdNode	UpdateFileSet
59	2 /10 10:52:31	PC052050	AfwFsdNode	UpdateFileSet
60	2 /10 10:52:30		AfwFsdNode	UpdateFileSet
61	2 /10 10:50:47		AfwAdminLoad	Aspect system loaded into system.
62	2 /10 10:50:46		AfwAdminLoad	Aspect system loaded into system.
63	2 /10 10:50:45		AfwAdminLoad	Aspect system loaded into system.
64	2 /10 10:50:44		AfwAdminLoad	Aspect system loaded into system.
65	2 /10 10:50:44		AfwAdminLoad	Aspect system loaded into system.
66	2 /10 10:50:43		AfwAdminLoad	Aspect system loaded into system.
67	2 /10 10:50:42		AfwAdminLoad	Aspect system loaded into system.
68	2 /10 10:50:41		AfwAdminLoad	Aspect system loaded into system.
69	2 /10 10:50:41		AfwAdminLoad	Aspect system loaded into system.

Figure 10-2. Default System Message List

If you double click on a line in the System Message List, the Process Display Dialog for the object opens.

7. Select View in the menu bar and choose Configuration. A configuration dialog box opens. See Figure 10-3.


Default System Message List:Alarm and Event List Configuration
Default System Message List:A
Sort
Priorities
Column
Date
Filter
Cancel
Apply
Help

Message Type
○ Process Alarms
● Events

Categories
System Administratio
System Status
User Annotation

☑ Acknowledged
☑ Unacknowledged
☐ Blocked Repetitive
☐ Uncertain Time Tag
☐ Auto Disabled

Time Stamp
☑ Event Time ☐ Acknowledge Time

View From
● Newest
○ Time 12/30 00:00:00

View To
● Oldest
○ Time 1 / 1 01:01:01

● All
○ Range
From

Priority Level
From 1
To 4

Figure 10-3. System Message Filter Dialog Box

8. If you select the Filter tab you may use the filter facility according to Figure 10-3 and filter the information in the System Message List.

Chapter 11 How to Use Reports

11.1 User Interface

The user interface for Advant Reports is embedded in the Excel user interface. When you install Advant Reports, Advant Reports Add-Ins are added to the toolbar and menu bar. See Figure 11-1.

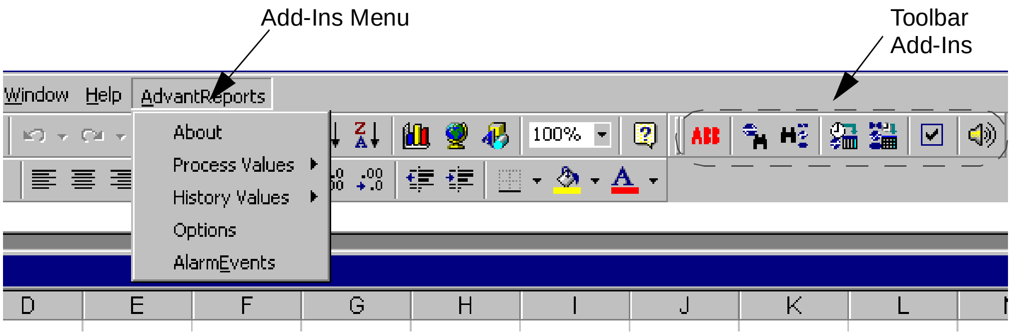


Figure 11-1. Toolbar Buttons for Advant Reports

11.1.1 Toolbar for Advant Reports Add-Ins

Process Values

The Process Values button, see Figure 11-2, displays a dialog that lets you retrieve the current value for a single process object (tag). As an alternative you can choose **AdvantReports > Process Value>Single** from the menu bar.

Multiple Process Values

The Multiple Process Values button displays a dialog that lets you retrieve the current values for multiple process objects. As an alternative you can choose **AdvantReports > Process Value>Multiple** from the menu bar.

History Values

The History Values button displays a dialog that lets you retrieve historical values for a single history object (log). As an alternative you can choose **AdvantReports > History Value>Single** from the menu bar.

Multiple History Values

The Multiple History Values button displays a dialog that lets you retrieve historical values for multiple history objects. As an alternative you can choose **AdvantReports > History Value>Multiple** from the menu bar.

Options

The Options button displays the Options dialog for setting up data format, communications, and file setup options. As an alternative you can choose **AdvantReports > Options** from the menu bar.

AlarmEvents

The AlarmEvents button displays the AlarmEvents dialog that lets you retrieve alarm and event data. As an alternative you can choose **AdvantReports > AlarmEvents** from the menu bar.

About

The **ABB** (About) button displays the About dialog. As an alternative you can choose **AdvantReports** > **About** from the menu bar.

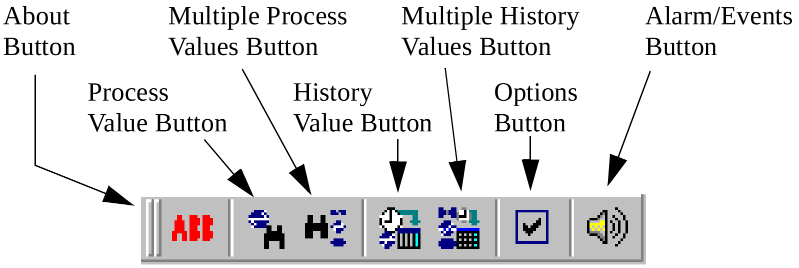


Figure 11-2. Process Value Button

11.2 Advant Reports Dialogs for Ad-hoc Data Retrieval

These dialogs let you generate ad-hoc data requests for:

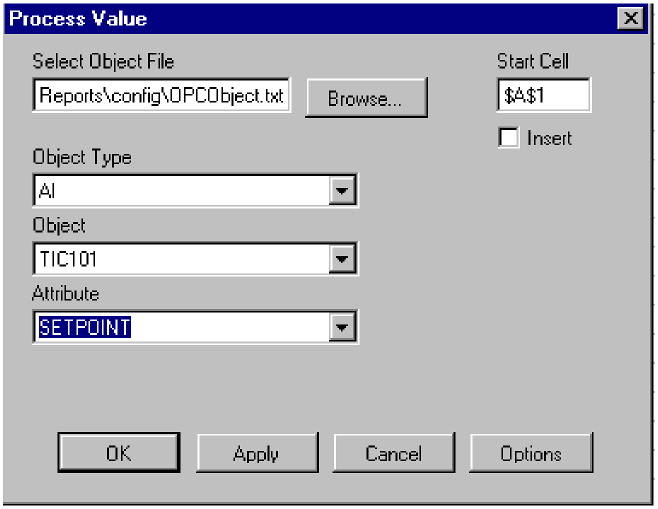
- Retrieving the Current Value for a Single Process Object
- Retrieving the Current Value for Multiple Process Objects
- Retrieving History Values for a Single History Log
- Retrieving Values for Multiple History Logs
- Retrieving Alarm and Event Data

Once the requested data are returned and displayed in the spreadsheet, you can not use the <**F9**> function to re-calculate the workbook and retrieve new data.

NOTE

If you need to create a workbook that can be re-calculated on-demand for reporting purposes, you must use Advant Reports functions in the Excel Spreadsheet. See Section 11.3, Building a Report with an Excel Spreadsheet.

All dialogs have a similar layout, Figure 11-3. There are a number of widgets that are common to many of the dialogs. These common widgets are Object File, Start Cell, Object Type, Object, Attribute, Insert, and Values (the Values widget is not included in the Process Value dialog).



Select Object File: Reports\config\OPCObject.txt
Start Cell: A1
☐ Insert
Object Type: AI
Object: TIC101
Attribute: SETPOINT

Figure 11-3. Typical Data Retrieval Dialog

Apply, OK, & Cancel Buttons

These dialogs have an **Apply** button and an **OK** button. Use **Apply** when you want the dialog to remain open after you execute a query, so you can continue to work with the dialog. Use **OK** when you want to close the dialog after you apply your entries.

NOTE

The **OK** button always executes the query that is currently specified in the dialog, so if you have executed several queries using the **Apply** button, and then you use the **OK** button to close the dialog, the last query entered will be executed again. If you do not want to re-execute the query, use the **Cancel** button to close the dialog.

Object File

An object file is a text file that contains a list of object names. The object file that you select in this field determines the contents of the Objects list in the Object pull-down menu. The default object file specification is set via the Defaults tab in the Options dialog. You can use the **Browse** button associated with this field to change the object file specification.

One object file is provided with Advant Reports as standard. You can create additional object files to customize object selection for your application.

Start Cell

This field indicates the starting cell for data returned by the query. The initial Start Cell value is based on which cell in the spreadsheet is selected when you open the dialog. You can change the initial Start Cell value by entering a new value directly in this field.

The syntax is *ColumnLetterRowNumber*

The orientation of the data is set via the Data Formats tab in the Options dialog. If you choose Horizontal List, attributes are listed horizontally and objects are listed vertically. If you choose Vertical List, attributes are listed vertically and objects are listed horizontally.

Object Type

Specify the object type in this field. You can enter the object type directly in this field, or use the corresponding pull-down menu to select from a list of object types.

The list of available object types is determined by the object type text file specified in the **Defaults** tab of the Options dialog.

Object

You can enter the object name directly in this field, or use the corresponding pull-down menu to select from a list of available objects.

The list of available objects is determined by the object text file specified in the **Defaults** tab of the Options dialog, and by the Object Type selection. Only objects of the selected object type are included in the list.

You can change the object file specification directly in this dialog via the Object File field.

Attribute

Specify the object attribute in this field. You can enter the attribute name directly in this field, or use the corresponding pull-down menu to select from the attribute list. The list of available attributes is determined by the attribute text file specified in the **Defaults** tab of the Options dialog.

Insert

The Insert function lets you insert a new row or rows of data in the spreadsheet without overwriting any existing data. When the Insert function is selected, existing rows are moved down as required to make room for the new data. Not selecting this check box, may cause existing cells to be overwritten by new data.

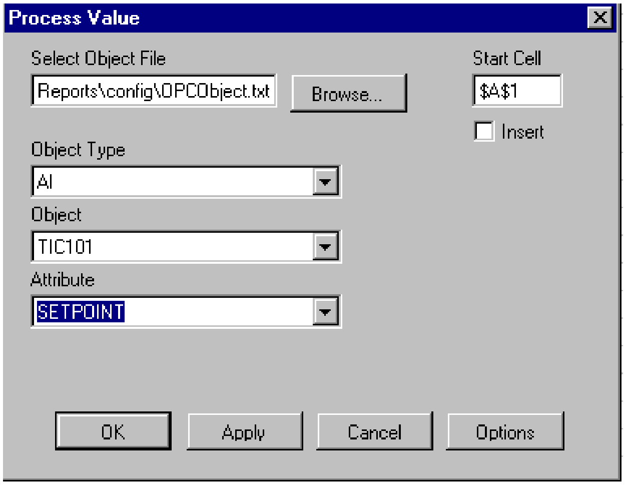
Values

Use this field to specify the number of values to be returned. You can enter an integer value directly in this field, or use the corresponding pull-down menu. The choices are: All, 1, 50, 100, 200, 300, 400, 500.

11.2.1 Retrieving the Current Value for a Single Process Object

To display the current value for a process object in your Excel Spreadsheet:

1. Click on the starting cell where you want to display the query result.
2. Either click the **Process Value** button, or choose **AdvantReports > Process Values>Single** from the menu bar. This displays the Process Value dialog, Figure 11-4.
3. The selected starting cell is indicated in the Start Cell field. You can use this field to change the Start Cell if necessary.
4. Click the Insert check box if you need to ensure that existing data are not overwritten by new data.
5. Use this dialog to specify object whose process value you want to retrieve. Select the Object Type first to ensure proper object filtering. Then select the Object File, Object, and Attribute.



Select Object File: Reports\config\OPCObject.txt
Start Cell: A1
☐ Insert
Object Type: AI
Object: TIC101
Attribute: SETPOINT

Figure 11-4. Process Value Dialog

To change any of the data format or orientation options, click the **Options** button to display the Options dialog.

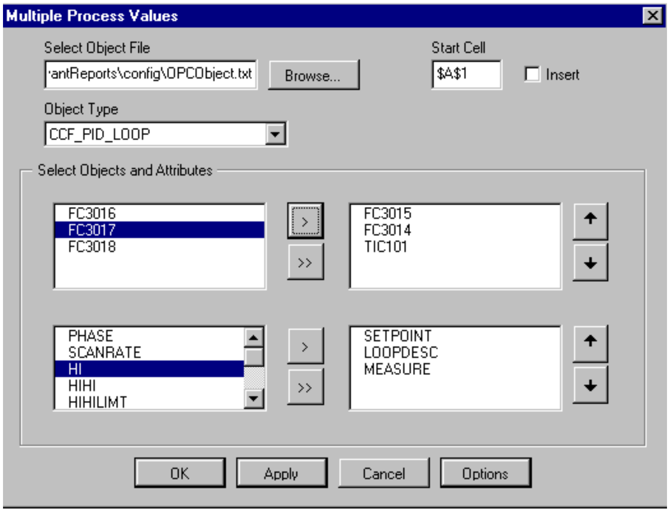
11.2.2 Retrieving the Current Value for Multiple Process Objects

This procedure is essentially the same as for Retrieving the Current Value for a Single Process Object. To display the Multiple Process Values dialog, Figure 11-5, either click the **Multiple Process Values** button, or choose **AdvantReports** > **Process Values**>**Multiple** from the menu.

Select the object type first to ensure proper object filtering. To select objects and attributes one-at-a-time, first click the name in the list of available objects/attributes on the left and then click the corresponding > button (or simply double-click the applicable name). This puts the selected object/attribute in the list of selected objects/attributes on the right. You can use the appropriate < button to move selected objects/attributes back to the list of available objects/attributes.

To select all objects or attributes, simply click the corresponding >> button. This moves all objects or attributes from the list of available objects/attributes on the left, to the list of selected objects/attributes on the right. You can use the << button to move all objects/attributes back to the list of available objects/attributes.

You can use the up and down arrows associated with the selected objects and selected attributes lists to adjust the presentation order.



Select Object File: 'antReports\config\OPCObject.txt
Start Cell: A1
☐ Insert
Object Type: CCF_PID_LOOP

FC3016
FC3017
FC3018

FC3015
FC3014
TIC101

PHASE
SCANRATE
HI
HIHI
HIHILIMT

SETPOINT
LOOPDESC
MEASURE

Figure 11-5. Multiple Process Values

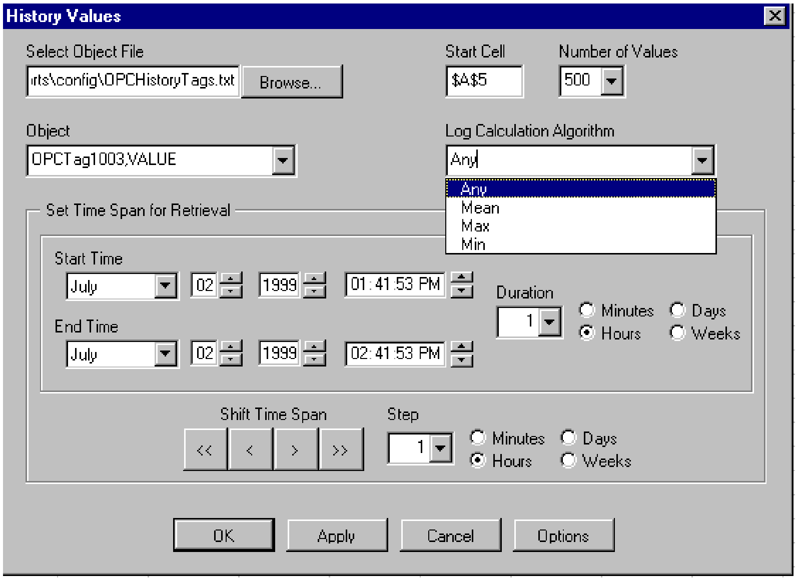
To change any of the data format or orientation options, click the **Options** button to display the Options dialog.

11.2.3 Retrieving History Values for a Single History Log

To display historical values for a selected history log in your Excel Spreadsheet:

1. Click on the starting cell where you want to display the query result.
2. Click the **History Values** button, or choose **AdvantReports > History Values>Single** from the menu bar. This displays the History dialog, Figure 11-6.

The starting cell is indicated in the Start Cell field. You can change the Start Cell if necessary. Specify the: Object File, Object, Log Calculation Algorithm, Time Span for Retrieval, and number of Values. Use the Shift Time Span buttons to shift the time span forward and backward.


History Values

Select Object File: rts\config\OPCHistoryTags.txt
Start Cell: A5
Number of Values: 500
Object: OPCTag1003.VALUE
Log Calculation Algorithm: Any

Set Time Span for Retrieval
Start Time: July 02 1999 01:41:53 PM
End Time: July 02 1999 02:41:53 PM
Duration: 1 ○ Minutes ● Hours ○ Days ○ Weeks

Shift Time Span
Step: 1 ○ Minutes ● Hours ○ Days ○ Weeks

Figure 11-6. History Values Dialog

Log Calculation Algorithm

This menu lets you select a log in the composite log hierarchy that performs a specific calculation. The choices are:

Any	retrieves data from log according to seamless retrieval algorithm. When the exact log is a composite log hierarchy is not specified, this algorithm selects the most appropriate log for you. Refer to the *Advant History User’s Guide* for details.
Mean	retrieves data from log that calculates the mean value.
Max	retrieves data from log that calculates the maximum value.
Min	retrieves data from log that calculates the minimum value.

Time Span for Retrieval

Specify the time span for retrieval of historical data by entering a starting and ending dates and times in the Month, Day, Year, and Time fields. To adjust time units (hours, minutes, seconds, AM/PM), first click on the applicable unit before you use the up/down arrows.

You can use the **Duration** menu in combination with the **Minutes**, **Hours**, **Days**, and **Weeks** radio buttons to adjust the time span. For instance, assume the time span is set for one week:

End Time = November 7 1998 08:00:00 AM
Start Time = October 31 1998 08:00:00 AM

If you select the **Hours** radio button, and then choose **12** from the **Duration** menu, the span will change from one week to 12 hours:

End Time = November 7 1998 08:00:00 AM
Start Time = November 6 1998 08:00:00 PM

You can shift the specified time span forward and backward via the Shift Time Span buttons.

Shift Time Span

These buttons let you shift the time span forward and backward. First select the units (Minutes Hours, Days, Weeks) and the number of steps (each step = 1 unit). Then use the buttons to shift the time span forward and backward:

<	Shift time span backward 1 times the number of steps
<<	Shift time span backward 2 times the number of steps
>	Shift time span forward 1 times the number of steps
>>	Shift time span forward 2 times the number of steps

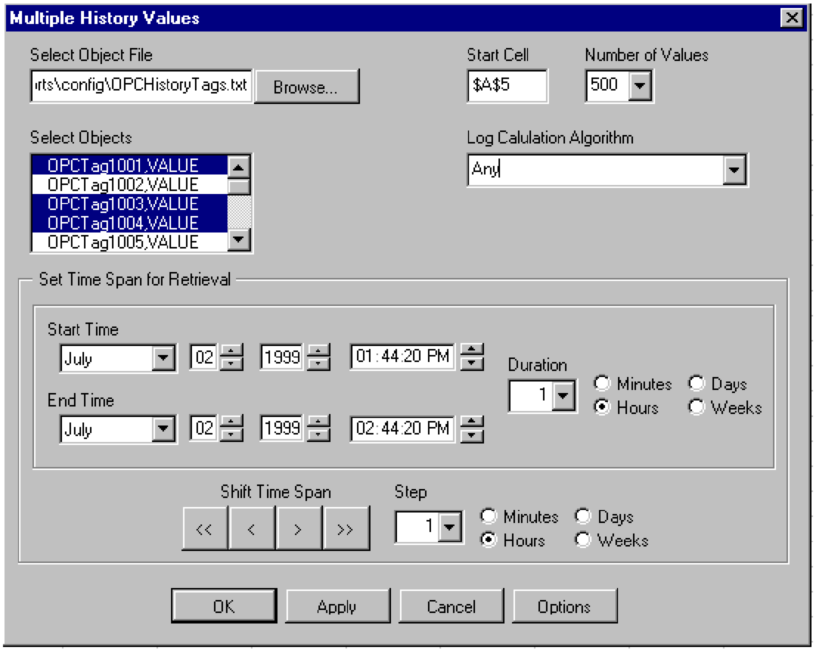
11.2.4 Retrieving Values for Multiple History Logs

This procedure is essentially the same as for Retrieving History Values for a Single History Log, with the following exceptions.

To display the Multiple History Values dialog, Figure 11-7, either click the **Multiple History Values** button, or choose **AdvantReports > History Values>Multiple** from the menu bar.

Rather than selecting a single Object, you can select any number of objects from the list of available objects:

- To select one item at a time, click on the corresponding line.
- To select multiple contiguous items, click on the first item you want to select, hold down the SHIFT key, and then click on the last item you want to select.
- To select multiple items that are not contiguous, hold down the CTRL key and click on the items you want to select.



Select Object File: rts\config\OPCHistoryTags.txt

Start Cell: A5

Number of Values: 500

Select Objects:
- OPCTag1001.VALUE
- OPCTag1002.VALUE
- OPCTag1003.VALUE
- OPCTag1004.VALUE
- OPCTag1005.VALUE

Log Calulation Algorithm: Any

Set Time Span for Retrieval

Start Time: July 02 1999 01:44:20 PM

End Time: July 02 1999 02:44:20 PM

Duration: 1 ○ Minutes ○ Days ● Hours ○ Weeks

Shift Time Span: << < > >>

Step: 1 ○ Minutes ○ Days ● Hours ○ Weeks

Figure 11-7. Multiple History Values Dialog

11.2.5 Retrieving Alarm and Event Data

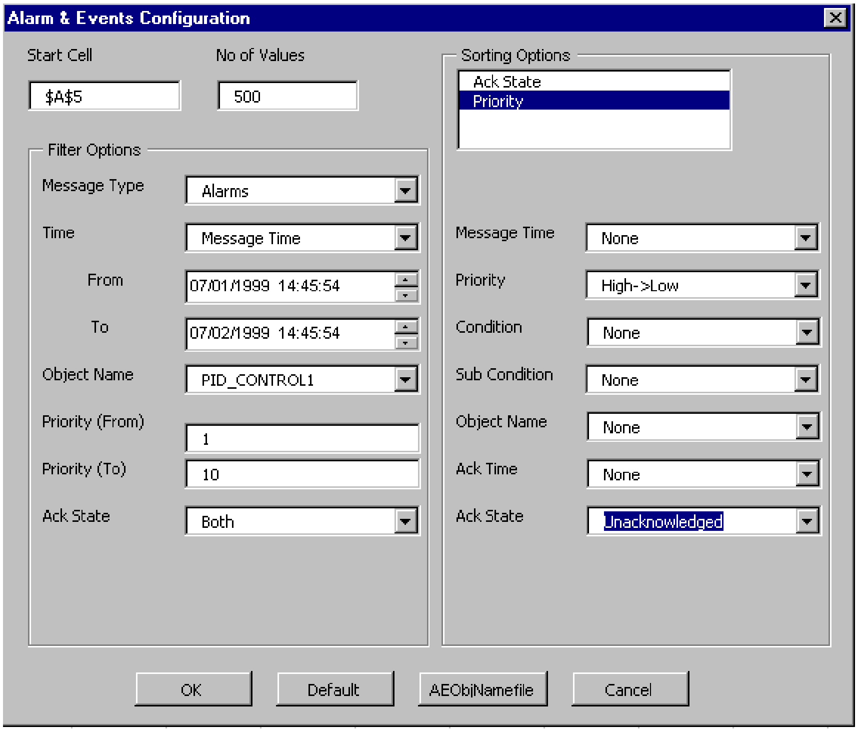
To display alarm and event data in your Excel Spreadsheet:

1. Click on the starting cell where you want to display the query result.
2. Either click the AlarmEvent button, or choose **AdvantReports** > **AlarmEvent** from the menu bar. This displays the AlarmEvent dialog, Figure 11-8.
3. The selected starting cell is indicated in the Start Cell field. You can use this field to change the Start Cell if necessary.

Use this dialog to specify the: number of Values, Filter Options, and Sorting Options.

To revert back to the default specification, click the **Default** button.

An example result from an alarm query is shown in Figure 11-9.



Alarm & Events Configuration

Start Cell: A5
No of Values: 500

Filter Options
Message Type: Alarms
Time: Message Time
From: 07/01/1999 14:45:54
To: 07/02/1999 14:45:54
Object Name: PID_CONTROL1
Priority (From): 1
Priority (To): 10
Ack State: Both

Sorting Options
Ack State
Priority
Message Time: None
Priority: High->Low
Condition: None
Sub Condition: None
Object Name: None
Ack Time: None
Ack State: Unacknowledged

Figure 11-8. Alarm & Events Dialog

11.2.5.1 Filter Options

The filter options lets you limit the scope of alarm and event messages to be retrieved retrieval based on any combination of the following criteria: Message Type, Time Range, Object Name, Priority Range, and Acknowledge State.

Message Type

Use this field to specify whether to retrieve alarm messages or event messages.

Time

The time specification has two parts. First specify whether to retrieve messages based on the time when the messages occurred, or when the messages were acknowledged (only applicable for alarm messages). Then use the *From* and *To* fields to specify the starting and ending times to retrieve messages for.

Object Name

This field lets you retrieve messages based on object name. The default is all object names as indicated by the asterisk (*). To narrow the scope of object names, you can enter either the beginning characters or ending characters in combination with the asterisk. For example:

- `TC*` will retrieve messages for all objects with the TC prefix.
- `*AREA1` will retrieve all messages for objects with the AREA1 suffix.
- `TC*AREA1` will retrieve all messages for objects with the TC prefix and AREA1 suffix.

You can also use the pull-down menu to select an object name. The list of names available in this field is specified by selecting the alarm/event object names text file via the **AEObjNamefile** button. This button displays a dialog to let you navigate to the directory where object text files are located.

Priority

Use the Priority (From) and Priority (To) fields to retrieve only messages within a specified priority range. The limits are: **1000** for most urgent to **1** for least urgent.

Acknowledge State

This field lets you retrieve just acknowledged messages, just unacknowledged messages, or both acknowledged and unacknowledged messages.

11.2.5.2 Sorting Options

The sorting options let you sort the resulting message list based on up to three of the following sorting criteria: Message Time, Priority, Condition, Sub Condition, Object Name, Acknowledge Time, Acknowledge State.

You can exclude one or more of these sorting criteria by setting the value to **None**. Selected criteria are shown in the Sorting Options list. This list indicates the order of precedence for each criteria. For example, in Figure 11-9 Acknowledge State takes precedence over Priority.

Precedence is based on the order in which you select the criteria, with the last selected criteria having precedence over the previously selected criteria. For instance, if you select Condition, then Message Time, then Priority, the list will be sorted first by Priority, then by Message Time, and last by Condition.

You can select up to three sorting criteria. If you try to select a fourth criteria, the first selection will be dropped from the list.

Message Time

Sort by message time from **Oldest to Newest**, or **Newest to Oldest**. If you choose **None**, this criteria is not used for sorting.

Priority

Sort by priority from **High to Low**, or **Low to High**. If you choose **None**, this criteria is not used for sorting.

Condition

Sort by object attribute in **Ascending to Descending** alphanumeric order, or **Descending to Ascending** alphanumeric order. If you choose **None**, this criteria is not used for sorting.

Sub Condition

Sort by alarm condition in **Ascending to Descending** alphanumeric order, or **Descending to Ascending** alphanumeric order. If you choose **None**, this criteria is not used for sorting.

Object Name

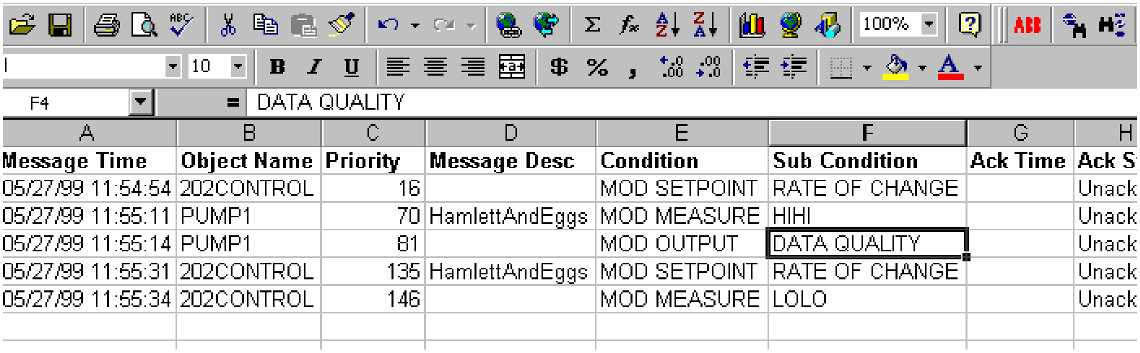
Sort by object name in **Ascending to Descending** alphanumeric order, or **Descending to Ascending** alphanumeric order. If you choose **None**, this criteria is not used for sorting.

Acknowledge Time

Sort by acknowledge time from **Oldest to Newest**, or **Newest to Oldest**. If you choose **None**, this criteria is not used for sorting.

Acknowledge State

Sort based on whether the alarms are **acknowledged** or **unacknowledged**. If you choose **None**, this criteria is not used for sorting.



F4 = DATA QUALITY

A	B	C	D	E	F	G	H
Message Time	**Object Name**	**Priority**	**Message Desc**	**Condition**	**Sub Condition**	**Ack Time**	**Ack S**
05/27/99 11:54:54	202CONTROL	16		MOD SETPOINT	RATE OF CHANGE		Unack
05/27/99 11:55:11	PUMP1	70	HamlettAndEggs	MOD MEASURE	HIHI		Unack
05/27/99 11:55:14	PUMP1	81		MOD OUTPUT	DATA QUALITY		Unack
05/27/99 11:55:31	202CONTROL	135	HamlettAndEggs	MOD SETPOINT	RATE OF CHANGE		Unack
05/27/99 11:55:34	202CONTROL	146		MOD MEASURE	LOLO		Unack

Figure 11-9. Example, Alarm Query Result

11.3 Building a Report with an Excel Spreadsheet

You can insert the following Advant Reports function calls in an Excel spreadsheet to build a report:

- ABBGetObj - retrieves the specified attribute value for the specified object.
- ABBGetHistory - retrieves a specified number of values for the specified historical log object.

Inserting Functions

To insert a function call, the workbook must be in manual mode. See Section 11.3.1, Building a Report with an Excel Spreadsheet.

You can either use the Excel Function wizard, or you can insert function calls manually.

- To use the Excel Function Wizard, see Section 11.3.2, Using the Function Wizard.
- To insert functions manually, see Section 11.3.3, Inserting Advant Reports Functions Manually.

Executing Functions

Typically, to calculate the entire workbook press the F9 key.

The only exception is just after you insert a function, or change a function. In this case you must use one of the following methods:

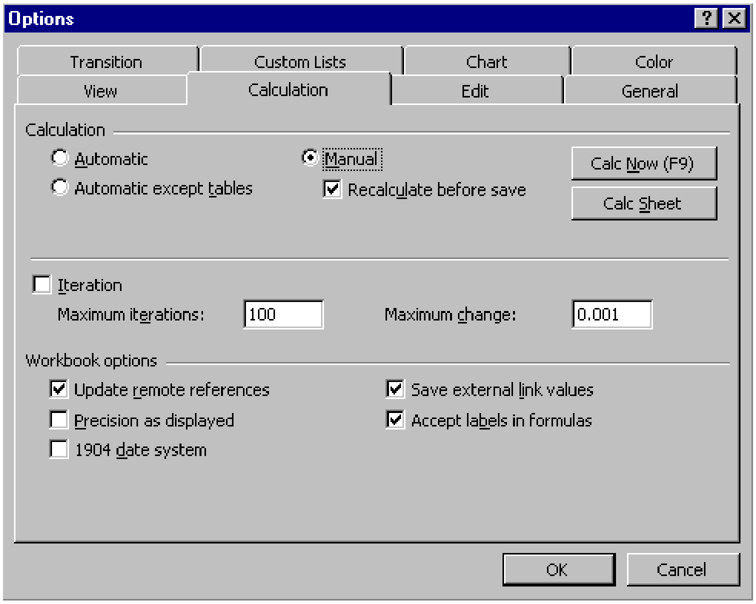
- for ABBGetObj functions, press ENTER.
- for ABBGetHistory, ABBSql, or ABBArray functions, press CTRL+SHIFT+ENTER

Pressing F9 after inserting or changing a function will cause Excel to crash.

11.3.1 Putting the Workbook in Manual Mode

When you use one of these functions in an Excel spreadsheet, make sure that your workbook calculation mode is set to Manual. To do this:

1. Choose **Tools** > **Options** from the Excel menu bar. This displays the Excel Options dialog.
2. Click the **Calculation** tab.
3. Select the **Manual** calculation option and click **OK**.



Calculation

○ Automatic
○ Automatic except tables
● Manual
☑ Recalculate before save

☐ Iteration
Maximum iterations: 100
Maximum change: 0.001

Workbook options

☑ Update remote references
☐ Precision as displayed
☐ 1904 date system
☑ Save external link values
☑ Accept labels in formulas

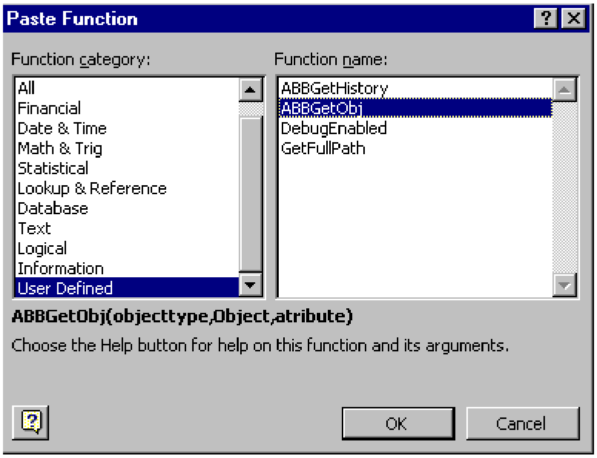
Figure 11-10. Excel Options Dialog, Calculation Tab

11.3.2 Using the Function Wizard

You may use the Excel function wizards as templates to set up your functions then run them later. To do this:

1. Make sure the workbook is in Manual calculation mode as described in Putting the Workbook in Manual Mode.

2. Make sure the Disable Function checkbox is checked on the Advant Reports Options dialog.
3. Select a cell in the spreadsheet.
4. Choose **Insert** > **Function** from the Excel menu bar (or click the Function button on the Excel toolbar). This displays the Paste Function dialog.
5. Select **User Defined** from the Function category list on the left. This displays the Advant Reports functions in the Function name list on the right, Figure 11-11.

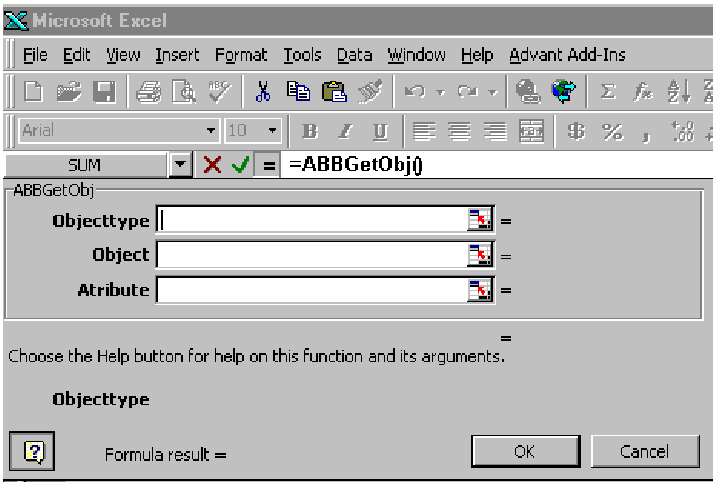


ABBGetObj(objecttype,Object,atribute)

Choose the Help button for help on this function and its arguments.

Figure 11-11. Paste Function Dialog

6. Select the function that you want to insert. This displays a dialog for specifying the selected function's parameters. For example, if you selected ABBGetObj, the dialog shown in Figure 11-12 is displayed.


Microsoft Excel
File Edit View Insert Format Tools Data Window Help Advant Add-Ins
Arial
10
SUM
ABBGetObj
Objecttype
Object
Atribute
Choose the Help button for help on this function and its arguments.
Objecttype
Formula result =
OK
Cancel

=ABBGetObj()

Figure 11-12. Function Specification Dialog

7. Enter a specification for each parameter. Be sure to embed text strings (for instance object names) in double quotes. Refer to the applicable function description for details (ABBGetObj, ABBGetHistory).
8. Click **OK** when you are finished with the Parameters dialog.
9. Repeat steps 3-8 for as many functions as you need to insert.
10. Go back to the Advant Reports Options dialog, and un-select the Disable Functions option.
11. If you inserted an ABBGetHistory function, you must do the following to execute the function for the first time:
    a. Select the cell where the function is defined.
    b. Starting with that cell, select a range of cells where the data will be entered.
    c. Press CTRL+SHIFT+ENTER to execute the function for the first time.
    d. Repeat steps a-c for each ABBGetHistory function.
12. Press the F9 key to calculate the entire workbook.

11.3.3 Inserting Advant Reports Functions Manually

For ABBGetHistory functions:

1. Make sure the workbook is in Manual calculation mode as described in Putting the Workbook in Manual Mode.
2. Select a range of cells. For example, for ABBGetHistory, you may select an area on your worksheet that is 3 columns wide and 500 rows long.
3. Enter the function according to the function syntax. Refer to ABBGetHistory for details.

   Each parameter must be separated by a comma. Strings must be in double-quotes (").
4. Press CTRL+SHIFT+ENTER to run the function. This causes the selected area to be treated as an array, and as one function.

For AbbGetObj functions:

1. Make sure the workbook is in Manual calculation mode as described in Putting the Workbook in Manual Mode.
2. Select a cell.
3. Enter the function according to the function syntax. Refer to ABBGetObj for details.

   Each parameter must be separated by a comma. Strings must be in double-quotes (").
4. Press ENTER to run the function.

NOTE

To recalculate all functions in the workbook, press F9.

11.3.4 ABBGetObj

The ABBgetObj function retrieves the specified attribute value for the specified object. The syntax for ABBGetObj is:

=ABBGetObj(Object Type, Object, Attribute)

Enter all parameters as text strings with double-quotes.

Example:

```
=ABBGetObj(“CCF_PID_LOOP”, “TC101”, “MEASURE”)
```

11.3.5 ABBGetHistory

The ABBGetHistory function retrieves a specified number of values for the specified historical log object. By default this function retrieves 3 columns of data:

- Time Stamp
- History Data Quality Indication
- Value

You can turn off the Time Stamp and/or History Data Quality indication via the Options dialog.

The syntax for ABBGetHistory is:

=ABBGetHistory(Object, Log Calculation Algorithm, Start Time, End Time, Values)

Object, interpolation parameter, start time, and end time are text strings and must be entered with double quotes. For start time, and end time, the date and time must be separated by a space. Values is an integer.

Example:

```
=ABBGetHistory(“FC3051,MEASURE”, “max”, "11/3/98 14:30",
“11/3/98 19:30”, 5)
```

Matching the Number of Returned values with the Number of Rows Selected

The number of values returned by the ABBgetHistory function is determined by the Values parameter, and by the number of rows you select in the Excel spreadsheet (step 2 in Section 11.3.3, Inserting Advant Reports Functions Manually).

- If Values > selected rows, the excess values are truncated.
- If Values < selected rows, the excess rows are filled in with **`N/A`** (not applicable).

You can use the Values parameter to make the number of values returned match the number of rows selected. To do this specify the Values parameter as **`-1`**. For example:

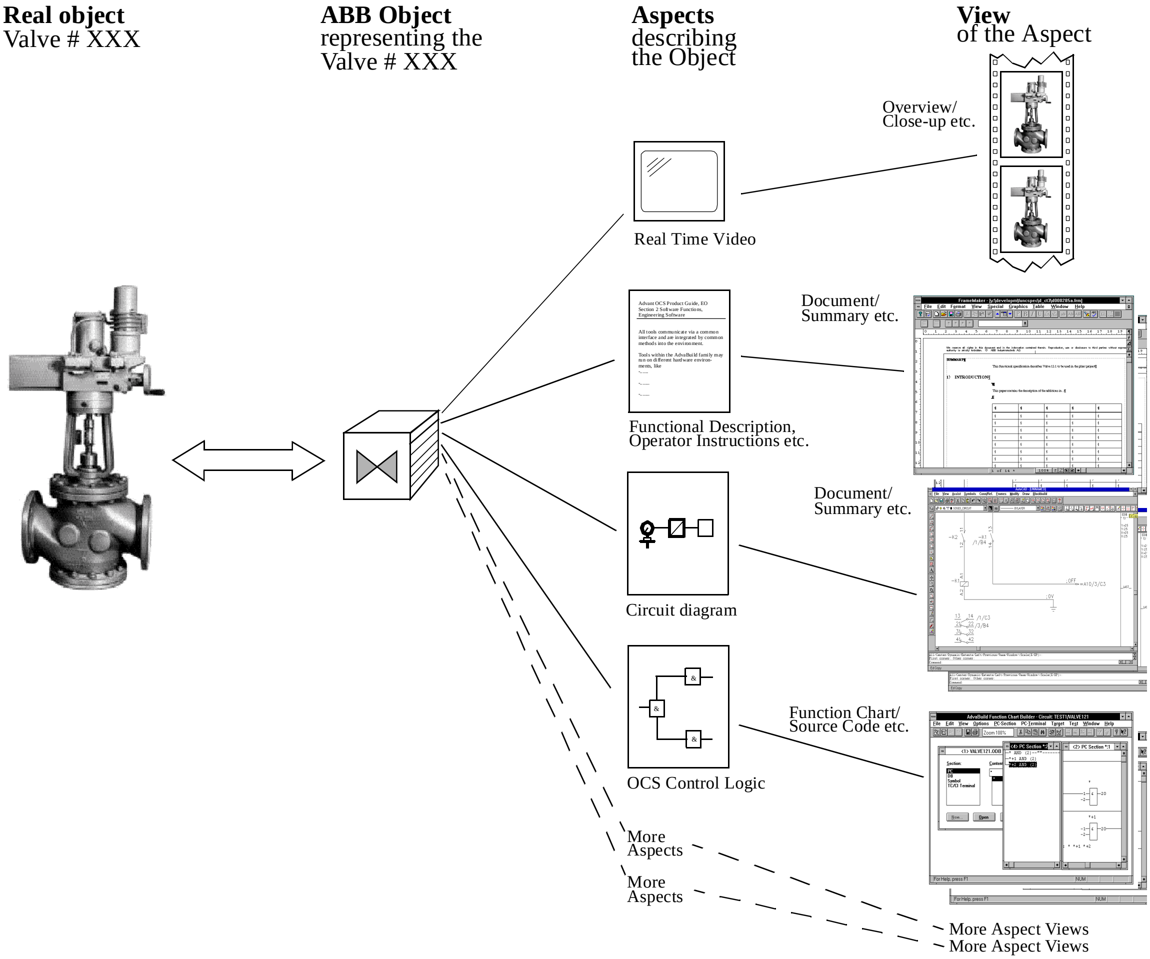
```
=ABBGetHistory(“FC3051,MEASURE”, “max”, "11/3/98 14:30",
“11/3/98 19:30”, -1)
```

Again, if there are less values in the log than there are rows specified, the excess rows are filled in with **`N/A`**.

Appendix A Glossary

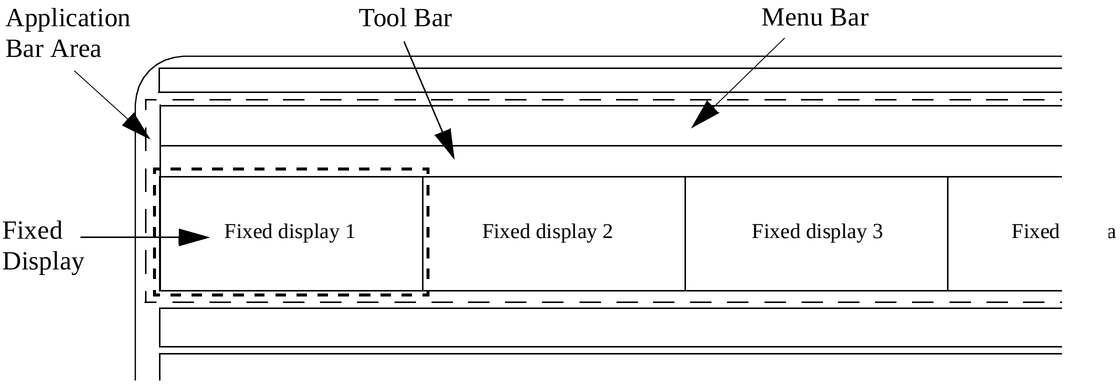
Term	Description
active window	The window in which a user is currently working or directing input. An active window is distinguished by the color of its title bar.
ABB Object	A representation of a real object that can be seen and operated in an Advant system. ABB objects are organized into structures. An ABB Object is described by its aspects. Examples of ABB Objects: plant equipment, components and devices, location entities, information entities.

Term	**Description**
	Example: A real object, for example a valve, is represented by an ABB Object. The ABB Object contains data describing the different aspects of it. This data describes different aspects of the real valve. ABB Object keeps this data together in order to give the user an easy and consistent access to this information.



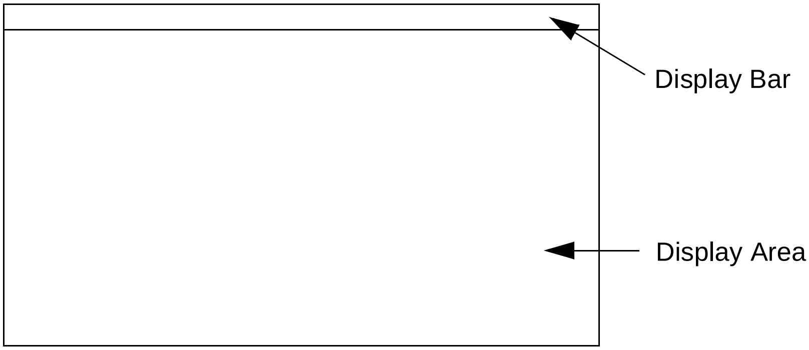
Term	**Description**
Advant server	An Advant server runs a set of services that support several nodes in the network. A typical Advant server task is to run the Alarm & Event or History services.
Advant user	An Advant user, for example an operator or application engineer, perform different Advant Workplace operations. Advant users can be placed into one or more Advant user groups. A Windows NT user, which is used when logging into a node (automatically or explicitly), can automatically be promoted to an Advant user if the system is so configured. The user and user group concept is used to handle personal customizing, authority control and operation logging of what the users have been doing in the system.
Advant user group	An Advant user group is a set of Advant users, for example operators or application engineers. All members within an Advant user group have the same privileges. For example, everyone belonging to an Advant user group called “Opera-tor”, is allowed to operate all pieces of equipment within a plant. Notice that the Advant user can be a member of several Advant user groups at the same time. NOTE! The Advant user and Advant user group concept matches the user and group concept found in Windows NT but some features have been added for process specific purposes.
alarm	An event in the process or system that must be acknowledged.
alarm acknowledge	An operator action to verify the recognition of the alarm.
alarm list	A list of alarm state changes that have occurred in the process and system.
alarm message	A text message that reports about an alarm state change.

Term	**Description**
application bar	The upper area of a window (main Workplace Window / overlapping Workplace Window) under the title bar. It is used to show things which must always be seen, like the time and an alarm line. It also provides fast access to some important commands. Some parts of the application bar are configurable, for example fixed displays.

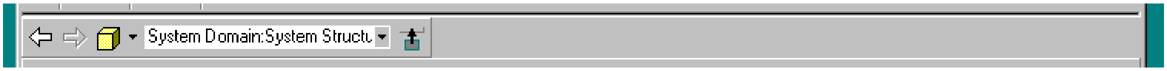


Term	**Description**
aspect	An aspect is a description of an ABB Object (which in itself represents a real object, for example a valve). The ABB Object keeps the aspect data together in order to give the user an easy and consistent access to the information. Examples of aspects: real time video, functional description, circuit diagram, OCS control logic. An aspect has, in most cases, also several views.
aspect category	All aspects belongs to one aspect category. The aspect category defines an icon, a default name, the aspect type etc. for the aspect. The aspect category is also used to hold parts of the authority definition for aspects.
aspect view	An aspect can, in most cases, be presented in several ways. These presentations are called aspect views. Real time video can for example be presented as an overview display or a close-up display, while the OCS control logic can be presented as a function chart or as source code text.
audible alarm	An audible signal, used to get attention to an alarm state change.

Term	**Description**
base display	A display presented in the base display area.
base display area	The area in a window (main Workplace Window / overlapping Workplace Window) where a base display appears.
close-up	A graphic element containing detail information about an ABB Object.
context menu	Menu that appears when you right-click on an ABB Object or an aspect in a window (main Workplace Window / overlapping Workplace Window). The menu contains a number of actions that can be performed which are related to the object and/or aspect. For example display other aspects, perform aspect commands etc.
default aspect	The aspect of an ABB Object that is presented when the user selects the aspect. The default aspect is included among the available aspects in the object context menu.
deployed graphic	The runtime version of a graphic built in Advant Graphics Builder.
direct manipulation	The technic that lets users manipulate controls of the user interface directly on screen. Direct manipulation simulates the real world.
direct selection keys	Keys on a special keyboard that are reserved for customer definition.
display	An aspect view with a display bar. A display can be presented in the base display area in a window (main Workplace Window / overlapping Workplace Window).

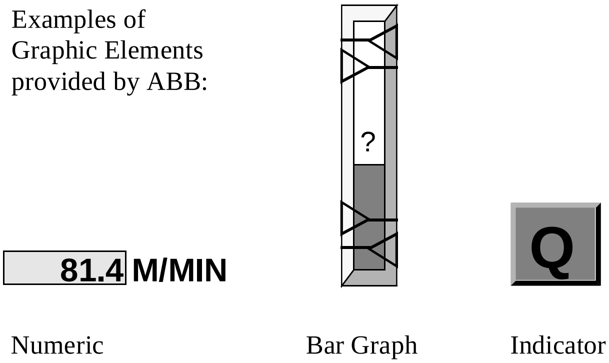


Term	**Description**
display area	The area in a window (main Workplace Window / overlapping Workplace Window) where the display appears.
display bar	The bar at the top of a display which includes display history list, display shortcuts etc.



display history list	A history of previously presented displays. Presented as a drop-down list in the display bar.
display shortcut	A fast way for the user to have direct access to a display. The result of selecting a display shortcut is a display presented in the display area or as an overlapping display. Display shortcuts can be presented in the application bar, status bar, display bar or within a display if the aspect type support this.
event	A event in the process or system that does not have to be acknowledged.
event list	A list of events that have occurred in the process.
feature	Any functionality that needs to be licensed. For example, a feature could represent any of the following: a software system, a single program, a specific version of a program, a part of a program, a piece of data (restricted by access routines).
fixed display	A display included in the application bar which contents only can be defined in configuration mode of the application bar. It is possible to configure up to four fixed displays in the lower area of the application bar. This type of display does not include the display bar or the tool bar part of the display. The images are self-resizing.
floating license	A floating license means anyone on the network can use the licensed software, up to the limit specified in the license file. Floating licenses are always counted.
full-screen mode	The whole screen is covered by a window (main Workplace Window / overlapping Workplace Window).

Term	Description
graphic	Graphic is used to refer to graphic display, graphic element and process dialog as a group.
graphic display	An aspect for an ABB Object consisting of static and dynamic graphic objects to provide both orientation and live process feedback.
graphic element	A graphic aspect that has a reference to an ABB Object. Normally a part of a graphic display. A graphical object typically built up from several subelements and/or primitive elements. Some graphic elements are provided by ABB, while others may be built by the user.

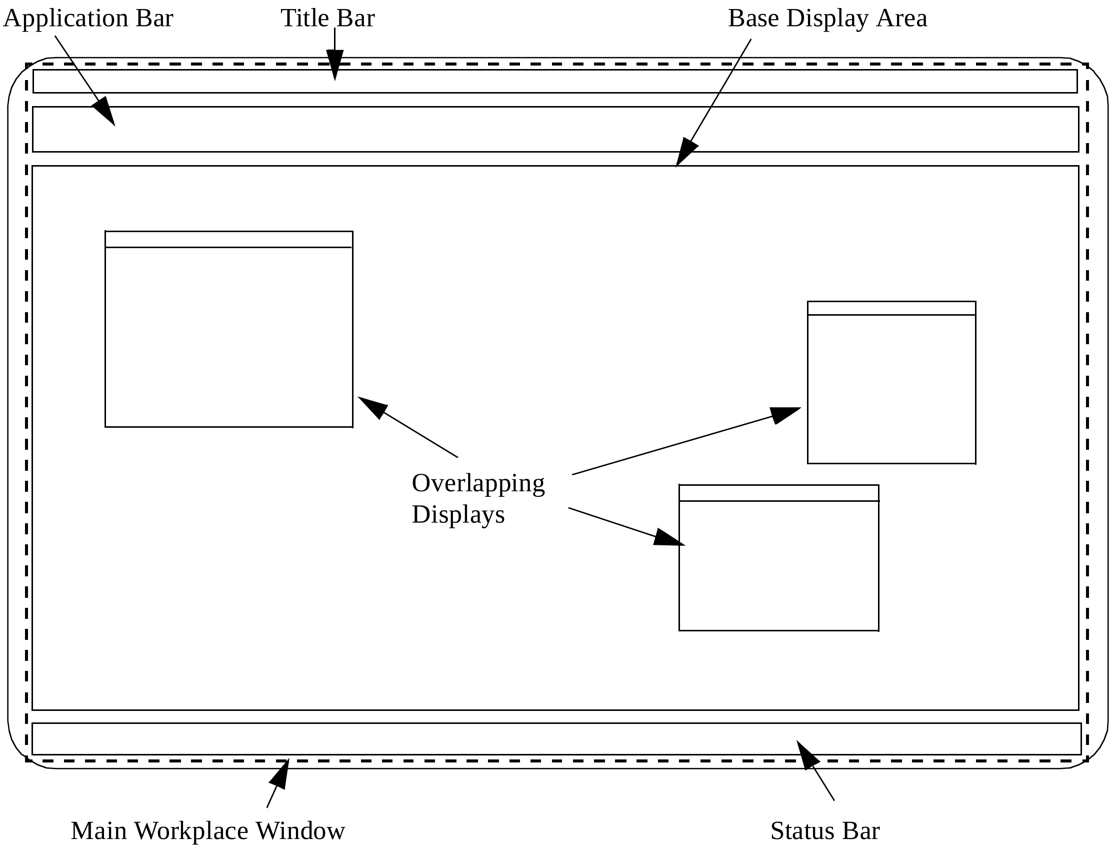


Examples of Graphic Elements provided by ABB:

Term	Description
graphic element browser	A tool used to select object aware (graphic) elements in Advant Graphics Builder.
graphic expression	Graphic expression is used to specify a data subscription and a relationship between process data and data to be displayed.
graphic libraries	Libraries of primitive elements, and standard graphic elements, for example process dialog, object display and close-up.
hardcopy	A function that for example makes a screen dump and prints it on a printer.
HMI	Human-Machine Interface
inactive window	The window in which a user’s input is not currently being directed. An inactive window is distinguished by the color of its title bar.

Term	**Description**
key	A keyboard key or trackball key. On a mouse the keys are called mouse buttons. On the screen they are called command buttons.
license	The legal right to use a feature.
license code	An electronic representation of the license.
license server	License server processes.
license server node	A computer system that is running the license server software. The server node will contain all the site-specific information regarding the usage of all the features.
license storage	A site-specific storage/file that contains descriptions of the licenses (features) for all supported products. License storage is created by the software vendor.
locked object	An ABB Object locked for control. This can for example be presented by a white frame around the object.

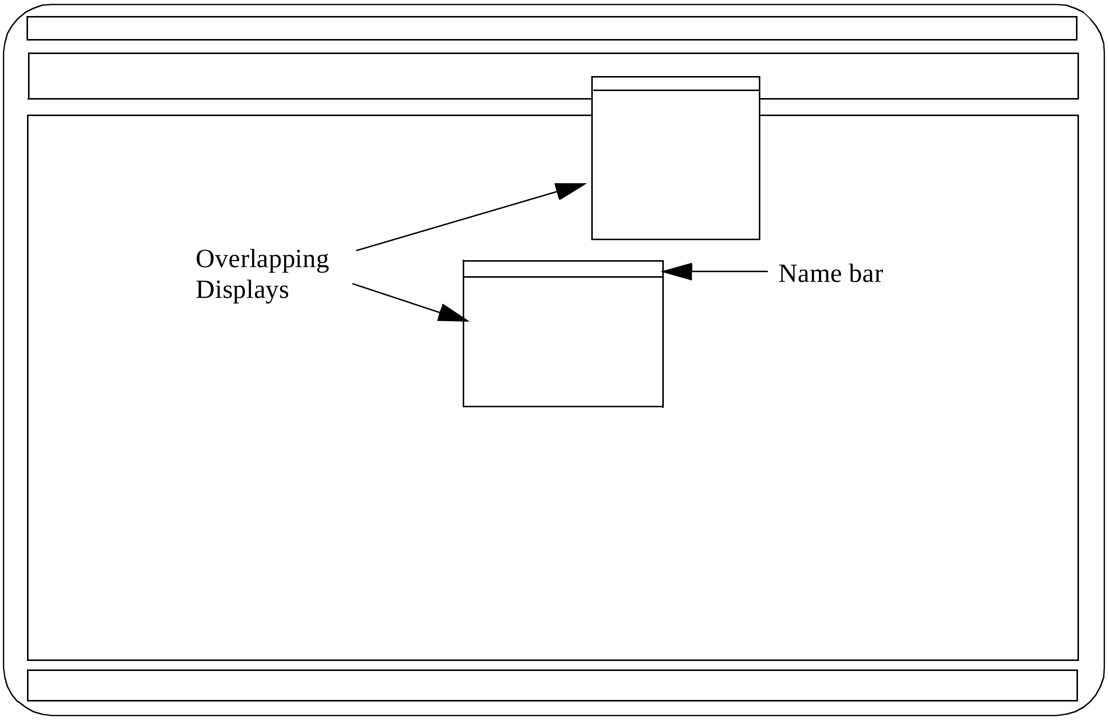
Term	Description
Main Workplace Window	The user interface area used for the Advant system. The area contains means for presenting information, navigating between different pieces of information and controlling objects.



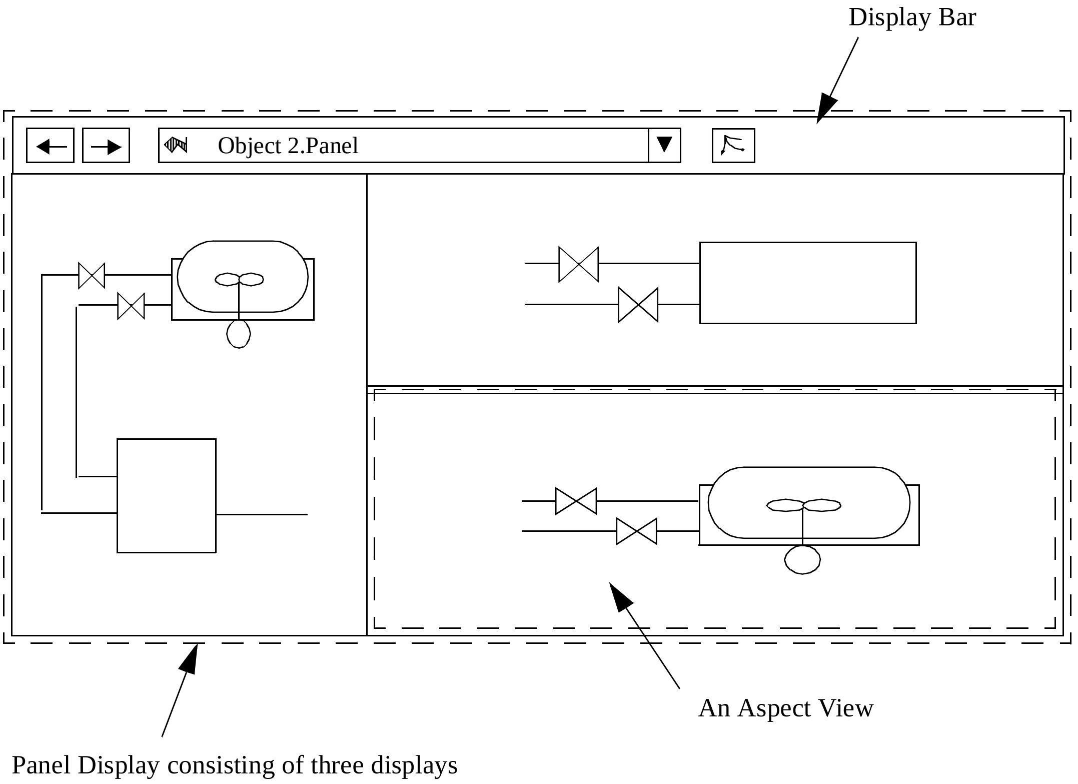
Term	Description
marked object	Indicates pick sensitivity to the operator, by showing "blue corners" or by looking like command buttons, when the pointer is on its target area.
message line	A field in the bottom of Advant Workplace Window that shows messages to the user.

Term	**Description**
modes of operation	Advant Workplace has two modes of operation: Operator mode and Windows™ mode. 1. Operator mode (full-screen mode with automatic start-up) This mode is used for Operator Workplaces. The whole screen is covered by the main Workplace Window, and no other activity window can be opened. There is no way to resize or minimize/maximize the window. Icons, normally placed on the desktop, are covered by the main Workplace Window (and therefore not visible). Overlapping Workplace Windows are always placed on top. 2. Windows™ mode In Windows mode all windows acts as normal NT-windows. You may change between minimized window, normal window and full-screen mode in the same way as with any Windows window by using the three buttons in the upper right hand corner of the window. You may also resize and move around the window on the screen. This makes it possible for you at all times to resize and place the main Workplace Window according to your needs.
node-locked license	Node locking means the licensed software can only be used on one node.
object aware element	A high complex graphical object typically built up from several subelements. Object aware elements exist as ActiveX controls and are able to accept a reference to an ABB Object. Graphic displays, graphic elements and process dialogs are examples of object aware elements.
object display	A category of graphic element. An object display contains all the information on the object dialog along with a close-up element, a trim curve (or fast local trend) and additional object parameters.
OPC item	Any object attribute that can be read through an OPC server.

Term	**Description**
overlapping display	A display presented in a separate window. The window can be moved and resized on the screen.

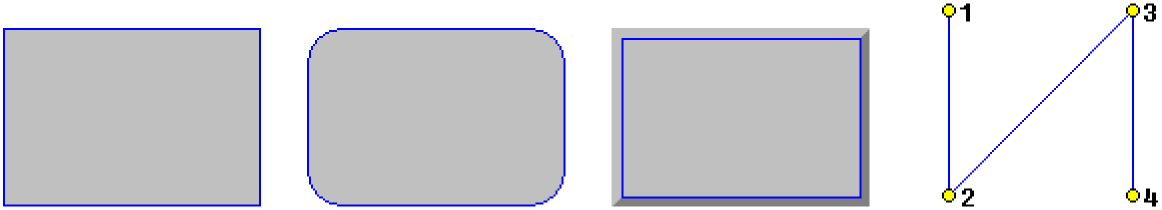


Term	Description
panel display	An aspect for an ABB Object consisting of a set of aspects.



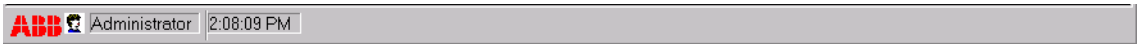
Term	Description
pointer	The pointer acts as the user's finger on the screen. It's movement correspond to the pointing device's movement.
pointing device	A pointing device is used to move the pointer on the screen. It also has mouse buttons (on mouse) or keys (on trackball) for interaction.

Term	**Description**
primary window	The main window that an application presents on the screen. The main interaction takes place in this window from which the user can call up secondary windows.
primitive element	A simple graphic object, for example rectangle or polyline. Used in Advant Graphics Builder.

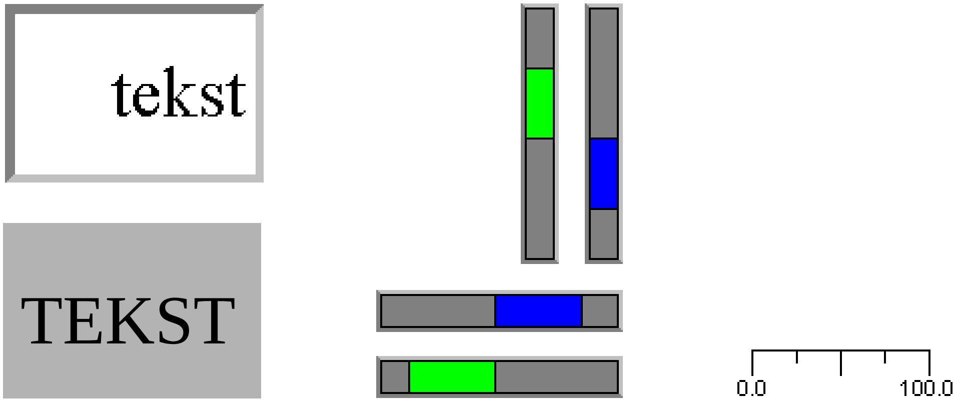


Term	**Description**
process	Only using the word process by default means an industrial process. Other processes shall be specified, for example Windows NT process, development process, the process of software testing.
process dialog	A type of graphic used for process information and control.
restore	A window handling function. Restores a window to its previous size and position after the user has maximized or minimized the window.
secondary window	A window that appears as a response to a command in the applications primary window or in another secondary window. Secondary windows provide information or supplemental interaction related to the primary window. Dialog boxes are of the type secondary windows.
selected object	Indicates if the object is selected. The indication mirrors the selected state in the Advant Plant Explorer.
selection	Selection of an ABB Object.
special keyboard	A keyboard with keys for direct selections of panels and direct selections of special Advant Workplace Window functions.
standard keyboard	A standard QWERTY keyboard, without any special application keys, that is delivered together with the computer.

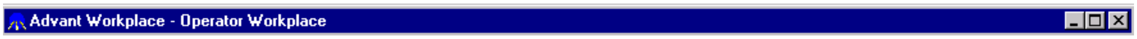
Term	**Description**
status bar	Occupies an area at the bottom of the screen and is used for status information and system messages.



structure	A hierarchical organization of ABB Objects that describe the dependencies between the real objects. Several structures can exist and an ABB Object can exist in more than one structure. You can create several structures depending on your needs. Some predefined structures are available.
subelement	A graphic object composed by primitive elements. Subelements are data type aware. Used to build graphic elements in Advant Graphics Builder.



Text Bar Hscale

Term	**Description**
test mode	Mode used to test the layout and behavior of the graphic currently being built in Advant Graphics Builder. It is not possible to modify the built graphic in test mode.
test version	When saving a graphic in the Advant Graphics Builder a test version is saved.
title bar	Gives the name of the window. Is not visible in full-screen mode.  Advant Workplace - Operator Workplace
unacknowledged alarm	An alarm which has not yet been acknowledged.
user interface	A user interface defines the way an application and a user can communicate.
view selector	A drop-down list in the display bar used to select an aspect view.
window application	An application that appears in a window. In Advant Workplace applications can also be presented in displays.

Appendix B Advant Operator Workplace Tutorial

A built in Tutorial is included in the AdvaSoft 2.0 for Windows NT package.

Open the Advant Workplace and select in the menu bar Select>Tutorial.

A self instructed Tutorial begins, and you have only to follow the instructions to learn more about the facilities of the product.

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